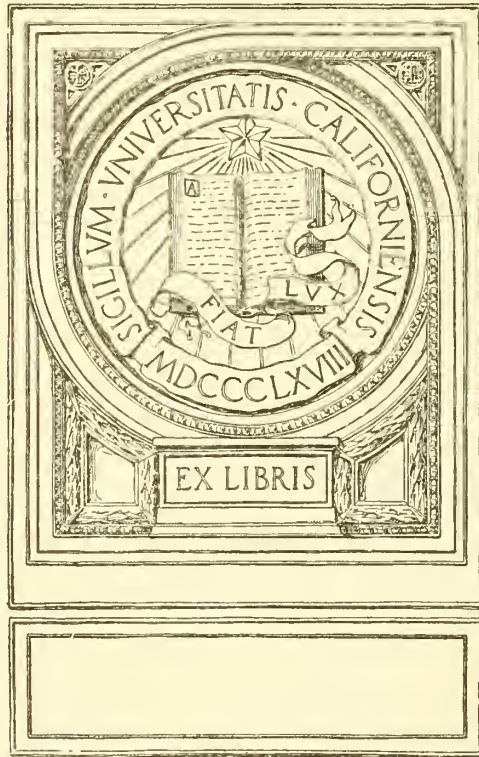



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Volume Seventy-Nine

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HOW TO ADD YEARS TO LIFE AND LIFE TO YEARS.*

WILLIAM D. HAGGARD, M. D.,
President of the American Medical Association,
NASHVILLE, TENN.

There is a great opportunity for medical leadership in the reorganization of society and in the management of human affairs. Physicians who are in the strategic position of studying individuals both in health and disease, are in better position to understand the constructive forces that will aid in stabilizing society because they are constantly studying the things which make for change in behavior. Civilization has become so complex that it is going to overwhelm existing society unless we are able to control those forces and compel them to flow within banks. One of the first things is to control physical disease as health is the greatest individual and national asset. The same endeavor should be applied to the protection of the mind. In our efforts to adjust ourselves to the ever changing environment of our modern life, we must make every effort in a constructive way to cherish our ideals and to evolve healthful practices.

Leaders of medical thought are appealed to in preventing the pestilences in armies and in making man power fit to fight. It must also be its great problem to make men fit to live and fight the battle of the destructive forces as opposed to the construc-

tive ones. No grander body of men ever came together than the Medical Corps of the U. S. Army, numbering 35,000 men. We must, with this same nucleus and led by the mentors of our profession, battle to make men appreciate life and its preservation, as well as we made them fit to destroy it. After all, it is the medical corps that prevents the scourges and epidemics that decimate armies. The same intelligence and effort directed along psychological lines would prevent the moral pestilence and degradation that ensue from the loss of ideals. It seems a pity that upon the medical profession at last rested the ability to make men so free from disease that they could be the most Gaugantian destroyers of each other's lives that ever existed. We have yet a higher and nobler calling, the battle of peace has its victims no less than the horrors of war. It must not be said of the medical service that its supreme achievement was to obtain a higher degree of health protection in war in order to make the ability to destroy more enormous.

The orderly working of the mind is just as essential as healthy heart and lungs, healthy liver or kidneys. We must find peaceful and harmonious solutions of the many problems that vex the individual's peace of mind, as well as national unrest as they also are controlled by normal mental processes. Mental conflicts are dangerous, and often are the things which precede national brawls. The physician who is versed in psychology and that part of impaired psychology, psychiatry, are better than statesmen, and if their advice is sane

*Read before the Louisiana State Medical Society, Monroe, La., April 15-17, 1926.

and compelling it will do more good than legions of armies in the prevention of hostilities.

The most indispensable individual in any community is the all-time health officer who not only preaches the gospel of individual health, but who in a broad way administers these laws for the prevention of epidemics and for constant improvement in sanitation and cleanliness.

Tuberculosis is the captain of the men of death. It is being controlled by education and sanitation. Yet there are a million active cases in this country at all times and perhaps another million that are inactive. One of every ten persons who die, dies of tuberculosis. More than 50 per cent. of all children are affected before they are ten years of age, and it increases until they are 15 years of age. If theoretically it were possible to form a barrage of handkerchiefs for every expectorated particle that comes from the mouth and lungs of every individual and that could be immediately burned, tuberculosis and all of the acute respiratory diseases would be greatly curtailed. When one hears school boys and college boys yell, "Block that kick!" it suggests the slogan, "Block that sneeze" (with a handkerchief); "Block that cough" (with a handkerchief). The sneeze and cough atomize a fine spray of assorted germs that are more deadly than a machine gun. As it is, the death rate of tuberculosis has been almost miraculously cut in twain in the last two decades and preventive medicine is one of its most striking victories in the throttling of the Great White Plague.

Out of about forty contagious diseases, six of them are carried by some form of insect. Many of the others are propagated by the roller towel and any other towel that has been used, and especially from unguarded spitting and coughing and sneezing, together with drinking and eating from unsterile vessels. These other 34 contagious diseases, therefore, are contracted by getting the infection through the mouth or nose. Tuberculosis is the greatest of

these. Louisiana has decreased the death rate in tuberculosis by nearly one-third in the last 6 years.

Malaria cost the lives of fifteen thousand people in the Southland alone last year, and yet if we can teach the coming generation to despise mosquitoes and destroy their breeding places and not take comfort behind screen doors, the menace of malaria can be man-handled. The draining of swamps, the destruction of little bodies of water where the mosquitoes so quickly develop and the pouring of oil on water where they are prone to breed, will go far toward lessening this terrible and unnecessary disease. A railroad company in the southwest by draining its ditches and oiling the water to prevent the breeding of mosquitoes lessened the incidence of malaria in one of the hospitals alone from over 600 a year to less than 100. What an enormous economic gain modern medicine confers upon civilization. Louisiana has cut down the deaths from malaria nearly one-half in the last five years but she still has nearly one-tenth of the deaths of the entire registration area of the United States. She likewise has over twice the death rate per 100,000 from typhoid fever as the other states.

Nearly one-fourth of a million school children in this country are affected with organic diseases of the heart. This is a terrible indictment and especially when it is recognized that many of these cases could be prevented by the removal of infected and diseased tonsils and adenoids, decayed teeth, and by protecting children from overstrain after acute illnesses, like scarlet fever.

The year that Columbus discovered America witnessed a terrific scourge of this dread disease in Nuremburg, which spread slowly from person to person and from community to community and became not only epidemic, but almost universal. Prior to the time of the finding of the germ by Loeffler in 1883, and the discovery of the antitoxin for diphtheria by Behring in

1893, the death rate was about 35 per cent. It had broken the fireside circle of nearly every home. Now owing to the beneficence of the antitoxin and the wisdom of the medical profession in its utilization, and the education that has become necessary, the death rate the world over is now less than 9 per cent.

Ignorant of the scourge of small-pox when every seventh baby in Russia died from it, and the fact that by long periods of vaccination, we have become more largely immune to the disease and protected from its ravages, some misguided people argue against vaccination.

About one-fourth of all the deaths in this country are communicable. Pneumonia stands at the head. Tuberculosis, measles, scarlet fever, whooping cough and diphtheria are the diseases which kill children before they are 10 years of age. Diphtheria has been made very much less dangerous by the use of anti-toxin in its very beginning. It can be prevented by employing the Schick test which will tell whether or not a given child is susceptible to the disease. If he is, then it should be almost totally prevented by giving the diphtheria toxin anti-toxin. If the Schick test is negative, it means that almost infallibly the child will never have diphtheria. This has brought the death rate in New York City down to less than half of what it was five years ago, but still 547 children died of diphtheria in New York in 1923, all of which, theoretically, were preventable. Any family physician can, and should, give the Schick test to every child unless it is done at the request of the parent by the physician in charge of the school.

There is a similar test for scarlet fever with a similar name, the Dick test, which can tell whether or not a child is susceptible to scarlet fever and if so, it can be prevented with almost the same certainty as can diphtheria.

Children should be interested in the prevention of illness and in the welfare of the

community health and well-being. They should know all about the water supply, which is very much more important than the dynasty of departed kings.

The annual health examination of school children is very essential, but if it cannot be done every year, it should be done on admission on the beginning of school life, and at least every second or third year thereafter, and always in the presence of one or both parents if possible, so that any abnormalities or conditions requiring correction should be thoroughly understood, and moreover should be followed up particularly by the health nurse to see that they are carried out, even if the parents do not do their full duty. The examiner could at once refer the child to their family physician or dentist, but it is the nurse's business to follow up the case with the co-operation of the teacher and physician.

Every child should be weighed and measured at least every two or three months, and every month if his condition warrants it. If a child is persistently below the standard of weight, something is really wrong, which should be corrected. Of all the simple and mathematical means to determine the health of a child, a weight chart is the best. A pair of scales and measuring rod should be in every school. If the school funds cannot or do not allow it, then the women's clubs or the men's clubs or some philanthropic citizen who would be glad to be of some real service to the city, should provide them.

City Boards of Health should offer to the schools (public, private and parochial), nursing service, especially for the diagnosis of communicable diseases, medical and dental service, nutrition classes, little mothers' classes, health talks, supervision of children in open air schools, and open window rooms, and special medical attention to the handicapped, including the deaf and the partially deaf, blind and the partially blind, and the crippled.

We should have the fullest co-operation with the State Boards of Health. We should have "state medicine" in its better and broader sense, not in the contract physicians' sense, or its degeneration to the plane that it was in Germany or the panel system existing in England, but modern American medicine with a larger outlook, wherein the state, in connection with the physician, conserves the health of the individual and supplies laboratories for the aid of the rural practitioner and encourages county and community hospitals.

PERIODIC HEALTH EXAMINATION

Periodic health examination is the acme of preventive medicine for the patient and the apotheosis of pre-clinical medicine for the profession, and requires a big program. The Medical Society should sell it to its own members and then to the laity by proper informative lectures to special groups, churches, clubs, schools, public meetings and fraternal organizations. Leaflets for distribution among the profession should be prepared by a special committee, another for popular distribution among the people at large for their information. Posters should be obtained for quick visual education, a *health week* established locally, the press should be called on for its help in the essentially individual and public health movement.

In the apparently normal person, who has a systematic physical examination, even if no real abnormality is found, he often needs, and will ask about other health problems, those of adolescence, sex education, exercise, diet, environment, mental hygiene and the principles of sanitation.

If all the duty of life comes from duty well done, there is no more gratifying experience than the appreciation the patient expresses after a thorough, painstaking examination. They want it, they deserve it, they appreciate it. The satisfaction of the average person after having passed a successful physical examination and test, is

really appealing. The opportunity for correction of minor defects and incipient disorders is alluring. The "ounce of preventive" must have been coined in anticipation of universal physical examination of the apparently well. So many conditions can be presented, many more alleviated, and cure can be invoked in the cases still amenable to relief.

It will take such a large block of diseases from the advanced and the irremediable class into the incipient and curable class. It will lay the ghost of the age-old plaint of the physician, "If I had only seen you a little earlier."

One out of six applicants for life insurance are declined or postponed. The annual health audit will detect albumin or sugar, high blood pressure, slight cardiac disorder, incipient tuberculosis, beginning neoplasm, and any and everything else. Your family physician will do the rest. What does it profit a person to be an ostrich with his ailments or like the Spartan youth to hide a disease until it gnaws out his vitals? Get the disease before the disease gets you. Get it early. Get it before you think you have it.

People have too long had such faith and confidence in their physician that they think he can cure anybody who has not been dead over three days. Our profession admires the faith of their clientele, but dislikes to be put in such superlative and unequal tests.

If elevators are inspected regularly, why not one's mouth and teeth? If a boiler must be examined regularly, why not your heart and lungs? You have tested the brakes on your car, why not the kidney function? You have your watch regulated, but not your diet. You have your batteries charged, but you let your weight run down from disease.

Should the most complex and wonderful mechanism in the world, that not made with hands, be allowed to become broken or impaired, to corrode or disintegrate? Neglect

your business if you must, neglect your golf if you can, neglect your wife if you dare, but don't neglect your physician and a yearly physical examination and health inventory on your birthday.

THE LOUISIANA STATE MEDICAL
SOCIETY AND MEDICAL PRO-
GRESS—1895-1926.*

THE DEBT OF LOUISIANA AND OF THE SOUTH TO
MODERN SCIENTIFIC MEDICINE FOR THE
PRESENT ERA OF UNPARALLELED
SALUBRITY AND PROSPERITY. A
RETROSPECT AND PROSPECT.

BY
RUDOLPH MATAS, M. D.,
NEW ORLEANS.

*Mr. President, Fellow-Members of the Lou-
isiana State Medical Society.*

LADIES AND GENTLEMEN:

It is with a sense of grateful appreciation that I appear before you tonight. This occasion transports me to a period of my life which was made memorable by the signal honor conferred upon me by the Louisiana State Medical Society when it lifted me to the Presidential Chair and thereby rivetted for all time the ties that have bound my professional interests and affections with the altruistic purposes and high aims of our State organization. This happened in 1895, and thirty-one years have rolled by since that, to me, momentous event, and I am happy to be here to enjoy with you the fruition of the bountiful years that have followed. The memories of that year, in which I served the Society as its executive, are as vivid now as they were then, and the graciousness of your favor and the aid received from my associates and fellows in the accomplishment of my task, remain indelible and linger as a precious perfume, fresh and fragrant—to animate me on this occasion.

And what an enormous distance we have travelled in the three decades that have intervened between 1895 and 1926! Only those who have participated in the medical life of this period—the most prolific in scientific discovery and momentous in the history of American medicine and in the world's progress—can realize the immensity of these thirty years when measured in units of discovery and achievement.

Medicine, profiting by the world energies that have been set in motion by the revelations of the physical, chemical, and biological sciences in the 20th century, has traveled with a vertiginous pace that, when contrasted with the past, can only be conceived by comparing the speed of the old doctors' horse and buggy with that of the automobile and the aeroplane. In this flight over the years, we who have lived in this Southern section of the country, have witnessed a succession of changes in medical thought and practice which to the practitioner of thirty years ago have seemed no less than a mirage such as that which startles the fevered brain of the lost wanderer in a tractless desert where he sees sparkling streams and umbrageous trees under which to rest and quaff his parched throat.

These bewildering visions are not a mirage, but a reality which reflects the radical transformations in medical thought and practice that have followed in the wake of the Scientific discoveries and new acquisitions of medical science in the last three decades. These have so completely altered the status of medical education, medical organization and medical licensure, that the M. D. of 1895 would feel as much out of touch with the world about him as another Rip Van Winkle on awakening in 1926 after a sleep of thirty years.

Just see what these thirty years have done for this organization, the Louisiana State Medical Society, a mere glance at the annual volume of transactions will show,—how its constitution and administration have changed to meet the requirements of

*Address delivered at the Annual Meeting (public session) of the Louisiana State Medical Society, held in Monroe, La., April 15, 1926.

an ever expanding, progressive and representative professional democracy. The present meeting attests not only to the great expansion of the organization, but also to the greater interest and sympathy in which the general public views the problems which are now engaging our attention.

Look at the mere titles of the subjects that have been brought up for discussion at our yearly meetings and you will realize the upward strides that have marked the march of the organization to its present high level. The Fellows who dropped off the roll in 1895, would have to consult a new lexicon in order to understand the language and interpret the meaning of the new words and phrases that have been coined since 1895, and that have come into circulation as a new currency issued by the treasury of medical science to meet the requirements of the present concepts of disease and the technic of modern scientific practice. And what a difference in the meaning that we now attach to some of the older terms that we were beginning to babble in the infancy of the many new offshoots of the tree of knowledge which were mere sapplings in 1895, and have since become the "green robed monarchs of a mighty forest." What did we know then of X-ray and Roentgenology, of radium and radiology and Curietherapy? What did we know of bronchoscopy, esophagoscopy and what these two inventions have done to simplify the extraction of foreign bodies in the food and air passage; of cystoscopy and pyelography and what these have done for the progress of genito-urinary surgery; of broncho-pulmonary radiography with lipiodol and other opaque substances for the diagnosis of pulmonary lesions; or ventriculography as the latest aid in the diagnosis of tumors and other surgical affections of the brain? What did we know of biochemistry, hematology, serology, hemotherapy, antitoxins and prophylactic vaccines? We had not heard of anaphylaxis, allergy, and all the extraordinary developments of modern immunology

which have sprung out of the immensity of the new sciences of bacteriology, protozoology, mycology and parasitology in their modern application to preventive medicine and to the every day problems that face the practitioner at the bedside. What did we know of endocrinology, of vitamins and the deficiency diseases? What did we know of physiotherapy and its dependencies, heliotherapy, diathermy and electro-therapy in the many and highly differentiated methods of healing by light, heat and water, as Nature's own most restorative and bountiful therapeutic agencies?

The immense strides of surgery which had been foreshadowed in the eighties with the dawn of the Pasteurian and Listerian renaissance, were only beginning to shape the course of the new Surgery in the nineties. In 1895, we were barely emerging from the atmosphere of carbolic acid sprays and bichloride baths of the early antiseptic period to enter into the aseptic era in which heat, steam and boiled gloves gave us the certainty of sterilization and the confidence of victory in our battles with wound germs and infections. We did not tarry long in our conquests of the extremities to enter boldly into the more sacred and forbidding precincts of the great visceral cavities; thus the abdomen, the chest and the cranium yielded, while in life, the secrets of the master organs which had, until then, remained hidden and undisclosed except by death. In this way no territory or region of the human body has remained unexplored and, in consequence, a vast catalogue of entirely new operations and technical procedures has accumulated which have been classified and labeled in a way that would be as unintelligible to the surgeon of 1895 as the modern concepts of the atom, of the ion and of the proton, would be to a physicist of that day. While asepsis was working magic in the prevention of infection, the other two legs of the surgical tripod were not lagging behind. Local anesthesia, which had been made possible by Koller's discovery of the anesthetic prop-

erties of cocain in 1885, only became regional, splanchnic and spinal long after 1895, when, through the combined efforts of the synthetic chemist and surgeon, new and safer substitutes for cocain, including that most powerful adjuvant, adrenalin, were added to the technic. These improvements have culminated in the perfected methods of analgesia that are applied with so much safety and success in our day. The methods of general anesthesia have likewise been transformed by the constant labors of the chemist, the physicist, the physiologist and the clinician, so that the sleep of general anesthesia has been made safer, less tempestuous and infinitely quicker than it was in the days when chloroform was our only anesthetic agent. The passing of chloroform as the preferred anesthetic of the surgeons of the South and the substitution of ether in general practice was one of the interesting phenomena that occurred in the nineties. In the displacement of both of these agents by nitrous oxide and oxygen, ethelyne and other gases, and by other synergistic combinations, administered by specially trained professional anesthetists, we find one of the most notable contrasts between the old surgery and the new.

The third leg of the surgical tripod—hemostasis, has kept the pace of progress as nimbly as the other two. Not only has the prevention of shock and the control of bleeding in the course of operations become one of the distinctive features of modern surgery, but the methods of replacing the lost volume of blood after hemorrhage distinguishes, in an entirely novel way, the practice of the present day and that of thirty years ago. During this time we have seen the revival and generalization of blood transfusion, either whole or modified by citration, as a current practice. Not only for the replacement of blood loss, but for the prevention and cure of a number of hemorrhagic dyscrasias and hemolytic diseases. In addition to transfusion, as a life saving measure, intravenous infusion of

saline, glucose, insulin and other remedial nutritive solutions, which serve as artificial sera, have come to play an enormous part in the conservation of life in the great emergencies of surgical and medical practice. But what is more recent and important, is the utilization of the growing resources of the biochemical and other laboratories for determining the fitness of patients for operations, and for anticipating the complications and dangers that may follow them.

The world war of 1914-18 brought out of its horrors many revelations, discoveries and inventions which have redounded to the benefit of humanity in peace as in war. It taught us new and more effective methods of sterilizing infected wounds. It gave us a new arm in chlorine and its compounds—hypochlorous acid as eusol and sodium hypochlorite, in the Dakin solution, which, when applied by the method of Carrel proved of extraordinary efficiency in disinfecting wounds. It introduced a number of new and powerful antiseptic dyes. It gave us the method of "debridement," or otherwise, the excision of contaminated tissues—as the most certain method of *preventing* the fatal infections of war wounds. It taught us new methods of repairing shattered bones, joints, and mangled limbs. It taught us how to extract projectiles and foreign bodies lodged in the vital organs, in hitherto inaccessible places—the lungs, the brain and the heart itself. It practically recreated plastic surgery and advanced the rehabilitation of the crippled soldiers to a marvelous degree. It demonstrated the protective efficacy of vaccination for typhoid, tetanus and other pestilential epidemic diseases, that until recently were the terror of armies. It promulgated the prophylaxis of the venereal diseases in a tone of conviction and authority never heard before. It taught us the secret of curing thousands of victims of the deadly influenzal empyemas, who would have perished by the older methods of treatment. And, in so many hundred

ways, this deadly war, paradoxical as it may seem, brought out of its ferocity, ghastliness and deadliness, innumerable new principles, methods and suggestions that have saved and are saving many lives that would have been doomed without the knowledge derived from this war experience.

The great war also brought out in a flaming light the incalculable service rendered by the professional trained nurse as the necessary collaborator of the doctor in the proper care of the sick and injured.

The hygienic and medical care of two million recruits who had been assembled in the different camps and cantonments in the country, in preparation for the battles across the seas, brought the mass of the people in closer touch with the problems of medical practice and gave a higher valuation to hospital service than has ever been known before.

The establishment of numerous government hospitals for the care of disabled veterans has also helped to promote a public interest in all institutions for the care of the sick, and out of the movement initiated by the American College of Surgeons in 1915, and with the support of the American Medical and other national associations concerned in the development and betterment of hospitals, a new concept of the functions of these institutions has arisen and developed into a nationwide propaganda for highest standards of service which has no parallel in the history of this or any other country. During the eight years that followed the war, we have seen a complete revulsion in the public feeling towards hospitals and institutions for the care of the sick and injured. Where formerly, the hospitals were regarded solely as a sort of "court of last resort" to be appealed to only when compelled by dire necessity, we now find the public willing and ready to avail itself of the advantages of these institutions for the study and investigation, as well as the treatment of

disease. The public has come to recognize that the hospital is the proper place for the sick and injured, just as the school is the proper place for education, and the theatre for amusement. The home can no longer meet the requirements of modern surgery and medicine, nor can the home give the guarantees of safety that are found in the lying-in wards of a well conducted hospital. The multiplication of the specialties, and chiefly the supremacy of surgery as a means of cure, and the increasing demands for laboratory research, have transformed the modern hospital into an educational as well as a curative center for the investigation or diagnosis of disease, as well as for its treatment. The hospital has now become a unit of social service in every intelligent community, and the progressiveness and intelligence of the community can be measured by the efficiency and character of the hospitals that serve its needs. What better proof of the growing public appreciation of the extraordinary advantages offered by a modern well equipped hospital as the proper place for the suffering and afflicted, than the mere fact that in 1925 over twelve millions of people went through the hospitals of the United States and Canada at an approximate outlay for maintenance of over one billion dollars! Could we have prophesied over thirty years ago that such a revulsion in public feeling could have occurred in our own days? What better tribute to the progress of medicine in its social, economic and technical development!

With the multiplication and growth of the specialties in every department of medicine, we have been called to witness the decline of the time honored general practitioner. He is gradually disappearing and merging with group combinations of clinicians, surgeons, internists, specialists and laboratory workers of all kinds, who work together in clinics, hospitals and private sanitariums in order to adapt themselves

to the demands and multiplying exactions of modern medical methods and practice.

*
* *

All this and more we have seen that fills us with wonder at the progress of the age. More achievements than it would take volumes to relate, but that are too well known to you to call for a rehearsal on this occasion. I must ask your indulgence, however, to consider one exception which is pertinent to this occasion and, I believe, worthy of your attention. For, above all the wonders that I have related, the greatest that we have witnessed in the thirty years travel since we met in 1895, have been the exploits and achievements of sanitary science guided by the light of experimental medicine. I refer to the discovery of the causes and mode of propagation and control of the great pestilential and endemic diseases, yellow fever, malaria, typhoid, typhus, cholera, bubonic pest, pellagra, hookworm and other plagues which for centuries have been the scourge of humanity and the deadliest enemies of human progress.

Medicine has made it safe not only to colonize and redeem vast areas of the earth's surface, which had been uninhabitable to civilized man, but it has made it possible for capital, commerce and industry to exploit the prodigious resources of the land in more temperate and well settled regions, such as ours, that have been lying idle for centuries through the fear of disease.

We, Louisianians and people of the South, have special reasons to be grateful for the advances of medical science and particularly of experimental medicine in its sanitary applications.

Look at what experimental medicine, guiding the hand of sanitation, has done for our own New Orleans and for the health, and in consequence, the prosperity of Louisiana—and for that matter, of the whole South. Take one instance, yellow fever as an example.

When we were meeting in New Orleans in 1895, the people of that city and of the whole seaboard of the South were living in perpetual dread of the periodical visitation of that fell destroyer—Yellow Jack.

You, who live in Monroe have been practically exempt from this plague, at least, as far as I can learn from history. But you have known its anxieties and you have suffered in the past as all the people of this State and of the neighboring gulf states and all those inhabiting the Mississippi Valley, by the restrictions and trammels put upon their commerce by the rigid quarantines, often of the shotgun variety, that forbade all communication by land or water with the metropolis and other suspected places. We, and all the people of Mississippi, Alabama, Arkansas, Texas, and Florida, felt and suffered the paralyzing effect of this exclusion of our port—"the gateway of the Mississippi," and of the seaboard, from commercial, economic and social relations with the outside world. In New Orleans, we lived in a state of constant dread and suspense, which was only relieved by winter's frost or when the surviving population remaining after a great epidemic had been immunized by previous infections. We lived in this state of uncertainty until 1905 when a large contingent of foreign non-immune immigrants, chiefly Italians, furnished the needed fuel for another epidemic conflagration, which would have been as widespread and deadly as that of the frightful visitation of 1878, had it not been that the new arms and methods, discovered in Havana, by the United States Army Yellow Fever Commission, and by the immortal Gorgas, during the American occupation of Havana after the close of the Spanish War, brought us the long prayed for means of salvation. The discovery that the familiar, domestic, or "cistern" mosquito, the *stegomyia fasciata* or *calopus* was the only agent that transmitted the disease is a matter of history which has been told so often that the story is now threadbare by repetition.

Nonetheless, this glorious chapter in the history of the conquest of yellow fever is a heroic epic in which the names of Walter Reed, Jesse Lazear, James Carroll, Aristides Agramonte, Charles Finlay and Wm. Crawford Gorgas, will figure in flaming characters on the imperishable roll of humanity's greatest benefactors.

The first victory of sanitary Science over yellow fever was won in Havana in 1901; the second and greatest in New Orleans, in 1905. In both countries the victory was won by declaring war on the mosquito. In the first battle field, Havana, a beautiful island, Cuba, "The pearl of the Antilles," was delivered from the bondage of centuries; in the second, New Orleans, the fate of a great metropolis was decided and with it, the future of the southern half of a continent was definitely assured. A little reflection will show that this is no exaggeration when we consider what the perpetual menace of the annual visitations of yellow fever meant in the past to the life of New Orleans; attaching to it a mal-odorous reputation of insalubrity; to the forbidding effect it had upon the growth of its population, upon its civic development and the dwarfing influence it had upon its commerce, as well as upon the progress and development of Louisiana, and, for that matter, upon the entire South. It restricted and actually forbade the most desirable and intelligent immigration. It kept Capital, Industry, Manufacture, Commerce and Finance at a distance; it put an embargo upon our maritime trade and expansion and reduced our river traffic to practical insignificance, beside diverting the great railroad trunk-lines into other tracks.

The victory of 1905 had the immediate effect of inspiring confidence in the future of New Orleans and in the whole Southern seaboard. An immeasurable evil had been suppressed and the means of preventing it in the future had been discovered. It put a new spirit and a new faith in a once apathetic, plague

stricken and discouraged community. By revealing the dangers that lurked in the familiar but hitherto dreaded pest,—the mosquito, it brought the people face to face with the startling realization of its perils. It forced upon the community the consciousness of the utter inefficiency of the primitive and obsolete systems of sanitation or *insanitation*—of sewage, drainage and water supply—which prevailed, and which had long ceased to be fit even for an antiquated colonial regime. It made necessary the destruction of the hundred thousand wooden cisterns, the paving of miles of mud streets and open gutters and stagnant basins and other perpetual culture media for the breeding of insects and the spread of disease. It was therefore the battle and great sanitary victory of 1905 that put a spur to the civic regeneration which we contemplate with so much pride in the New Orleans of today.

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And now that this has been done and the security of the South from the perils of foreign pestilence, yellow fever, bubonic pest and the prevalent endemic plagues, malaria, typhoid, hook-worm and pellagra, have been controlled, we are called to witness a transformation in the vital, economic and living conditions in the South that could scarcely have been credible, even as a miracle, not more than ten years ago.

Look at what is going on over our State, Florida, Mississippi and along the Gulfcoast, now better known as the Riviera of the South. Look at the hundreds and thousands who are flocking from the North, East and Middle West, and along the States bordering on the Mississippi River, who are pouring their millions into this great Southland, once looked upon as the abode of disease and pestilence and now appraised as a fabled El Dorado, a land of promise and of plenty, of health and of wealth, such as no prophetic seer in the past could ever dream of. Look at your own city, Monroe, with its extraordinary expansion, its rapidly increasing and

thriving population, its new industries, its manufacturing plants, its modern hotels, its numerous railway facilities, its river traffic, fine highways and, not least, its modern and thoroughly equipped hospitals, and, on top of it all, the recent discovery of one of the richest oil fields in the State.

Does this not speak for the new era of progress and prosperity which has come all over the South since the keen scented and clear-eyed watch dogs of finance have come to the realization that Louisiana and the South held treasures in natural resources that had lain hidden and idle since primeval ages, and that no one had touched for fear of that hundred headed Hydra of disease which stood guard over the soil and destroyed with its deadly poison those who trespassed upon her domain! But since the news has spread that the Hydra of yellow fever, malaria, typhoid, hook-worm and pellagra has lost its fangs, a new spirit of enterprise has risen and everywhere men with ambition, brains and brawn are rising to the opportunity in every community, and are reaping rich reward for their vision and courage.

So, to come back to where we started what is all this great wave of prosperity, this boom,—so called, which in the course of a decade has spread all over Louisiana, the Gulfcoast and the South, due to? Can any one who reflects and knows the history of the country, deny that the mainspring to this extraordinary movement was touched by the hand of sanitation guided by the light of modern experimental and preventive medicine?

The younger generation and the new populations that have settled here and throughout the Gulf States in the last quarter century and later, engrossed as they are in their newly acquired activities, and satisfied with the exploitation of their ever expanding opportunities, have come to look upon these as the spontaneous or natural outcome of improved and modernized civic, commercial and sanitary condi-

tions. They have little time to look at the past and scarcely know that there was a transformation—a sanitary revolution—and much less do they know the causes that have made their own success possible. It is we, the older inhabitants, who have lived through the transition period between the old, disheartening and depressing conditions, and the present busy bustling exaltation—the spirit of “big business,” that now pervades the atmosphere—who revive the memories of the great event in our sanitary history which transpired in the South in 1905, with New Orleans as the initial center which inaugurated this wondrous transformation. It is only now that we recognize its transcendent importance as the greatest factor in bringing about the extraordinary wave of prosperity that we are witnessing and enjoying today.

The lesson taught by the anti-mosquito campaign of 1905, has spread like an evangel of salvation throughout the world. The vast populations of the sea bordering states and the people of the Mississippi Valley, hitherto imperiled by the same cause, have shared with us the benefits of the same sanitary strategy which has insured our immunity and safety. With that perennial focus of the disease in Cuba and the West Indies, with the great ports of Central and South America regenerated in the same way, the dangers of importation from these sources of infection, have been definitely eliminated.

When we consider what the delivery of New Orleans from the thralldom of Yellow Fever has meant to that city, and to the whole South, is it not also proper that the school children should be taught in their text books, the names of the great men who contributed to such a stupendous achievement? Should they not learn that the peaceful and bloodless victories of science that mark the triumph of man in the eternal conflict with his invisible but deadly foes,—the predatory parasites of the micro-

scopic world,—are fraught with infinitely more significance to the welfare of the race than all the bloody battles that bear testimony to “man’s inhumanity to man?”

But while we rejoice in the fall of the stegomyia and with them the extinction of yellow fever, let us not forget that the minions of that arch enemy, the mosquito, in its several guises and breeds, still lives in our midst and that our sanitary redemption will never be complete until these pests are driven from the land. We still have the anopheles that propagate malaria and are banded with swarms of several other breeds of mosquitoes, that transmit other diseases and that render life almost unbearable with their stings, in so many of our most beautiful and God favored summer resorts, on the Gulfcoast and in the rural districts. The improved sanitary conditions, the drainage and sewerage in the cities, the pure and abundant water supply and the paving and building that is going on in all our modern communities, have driven the malaria breeding mosquitoes out of the metropolis and other progressive towns and cities. The progress which has followed in the wake of the great discovery of the chief cause of our insalubrity in 1905,—yellow fever, has roused a wide interest in the extermination of the mosquitoes from the marsh lands and from the rural districts, and every effort should be made and aid given by the State and by the people of all the adjoining and suffering states, to effect this much prayed for consummation. We all realize that this is a stupendous task, but with the aid of the Federal government, the Public Health Service, and the Rockefeller and other great philanthropic foundations, which have already done so much to better the health conditions of the people of the South, the ultimate or final delivery of the richest and most fertile section of our Southern country should be successfully accomplished. An eminent sanitarian, residing in the North but a loyal friend of the South, Dr. Frederick L. Hoffman, said recently: “Nowhere on the

globe has Nature done more for man than in the South, and if man will do his share in redeeming the large areas now suffering from the handicap of ill-health producing conditions, if man will but provide the necessary drainage and the required sanitation for the destruction or elimination of the anopheles and other breeds of the malaria breeding mosquitoes, and similar parasitic pests, the ‘new south’ of the future, will outdistance the ‘new south’ of the present, as much as it now eclipses the ‘old south’ of a quarter century ago.”

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Mr. President: When I was invited to address the Society on this occasion, I was not aware that my name would be coupled on the program with my official capacity as President of the American College of Surgeons. Had I thought so, I would not have wandered so far into the past of our Association, but dealt strictly with the living history, the purposes and the achievements of the great organization that I have the honor to represent.

But I feel that in reviving the historic and epochal events of 1905 in their bearings upon the present prosperity of Louisiana and of the South, I have only brought back to life one of the most glorious episodes in the history of the medical profession of Louisiana, a page that appears to have faded or at least, to have been lost in oblivion by the present generation, in spite of the indelible characters in which it has been inscribed in the memory of those who participated in its achievement. And I do not feel apologetic for my shortcomings, for is not the American College of Surgeons represented in your city by a group of men who would honor the Surgical profession in any community, and who would meet the most exacting requirements demanded for the practice of their art by any competent tribunal?

Again, I am comforted by the presence on this occasion of two of the most eminent

representatives of the American College of Surgeons. One an ex-President and a guiding spirit in its councils, one of the greatest living masters of Surgery in America, nay, of the world; one who with his brother personifies the most beneficent influence for the progress of Surgery that has come to the medical profession of America, and, in addition one of the best loved of men—Dr. Wm. J. Mayo.

The other, a distinguished member of the Board of Regents of the American College of Surgeons, now president of the greatest medical organization in the world,—the American Medical Association, and one of the most brilliant representatives of the South in the Medical Councils of the Nation,—Dr. W. D. Haggard, of Tennessee.

With these eminent representatives of the College before you, need I utter another word to prove the wisdom of the College or descant on the progressive and altruistic purpose that animates the American College of Surgeons, or refer to its extraordinary record of achievement in advancing the standards of Surgery and in protecting the most vital interests of the public?

Mr. President: Since I have begun this evening's remarks in a reminiscent mood, will you permit me to close what I have to say tonight with a brief reference to an incident in the history of this Society which is intended to revive the services rendered by two of our Fellows, whose lives are intimately associated with the history of this city of Monroe, and who are justly entitled to our grateful memory.

The year 1895, was memorable in the history of the Society for it was in that year that the bill "to regulate the practice of medicine and to create a Board of Medical Examiners," which had been enacted into a law by the Legislature of the State in the spring of 1894, had become effective. The Society then assembled in extra ses-

sion in New Orleans to nominate the members of the Board who were to inaugurate this new relationship with the State. By the provisions of this act the Louisiana State Medical Society became the active agent or executor of the law in regulating the practice of Medicine in Louisiana, and the Society became an organic part or instrument of the State Administration in discriminating between the qualified and unqualified practitioners of medicine. I need not insist upon the epochal character of this law, defective as it was, and still is, in some of its provisions. Suffice it to say that it has exercised a powerful influence in purifying the ranks of the profession, in elevating the standards of medical qualification and thereby insuring the better protection of the people against the incursions of the predatory horde of quacks, irregular therapeutic culturists and ignorant practitioners who would fatten and flourish at the expense of the suffering, credulous people of the State. I recall the enactment of this law not merely to quote an event, at that time, of the greatest importance to our organization and the people of this State, but to avail myself of the opportunity that it offers while here, in this enlightened, progressive and hospitable city of Monroe, to mention the name of two of our fellow members, residents of your city, whose distinguished careers in their public and professional relations have shed luster upon its citizenship and brought honor to their professional brethren. For it is to your beloved fellow citizens, Drs. A. A. Forsythe and I. J. Newton, that I refer.

It was Dr. I. J. Newton, an ex-President of the Society, who, as chairman of the committee on legislation and of the State committee of one hundred, of our State Society, not only framed the bill, but pushed it through to a successful issue in the face of an obstinate and aggressive opposition which had gathered in the general assembly of 1894, to defeat the bill.

As the presiding officer at that time, I shall always remember Dr. Newton's services with special gratefulness. I recall always his fine personality, his keen knowledge of men, his political insight, his persuasive eloquence, his mastery of parliamentary law and his popularity based upon his genial capacity to adapt himself to all his environments. In his loyalty to the purposes of this Society, he did not hesitate to sacrifice his personal and professional interests at home, where he was always wanted by a numerous clientele, and subjected himself not only to great inconvenience but to a loss of time and money in order to discharge his duties—the duties entrusted to him by the Society.

During the critical day of the debate in the House when the skies were ominous with black clouds and the issue doubtful, Dr. Newton was in the field leading our forces at Baton Rouge, striving gallantly to stem the tide of opposition which the enemies of progress and of the public weal had assembled to defeat the bill. It was at this juncture that another splendid doctor of Monroe, Dr. A. A. Forsythe, then mayor of your city, unsurpassed in the affections of his people for his extraordinary devotion to their interests as well as for his ability as a physician,—joined with Dr. Newton and with him did yeoman service in rallying all the available forces in and out of the legislature, to the support of the bill. It was largely through the personal influence and the fine generalship displayed by these two devoted members of our profession in your city, that the victory was won and that the Act "to regulate the practice of medicine in Louisiana," has remained one of the bulwarks of the people against the encroachments of arrant quackery, unrestricted license and abuse in the practice of medicine in this State.

Dr. Forsythe has long since passed away, he is now far beyond the hearing of my voice, but the grateful accents in which his name is uttered will surely harmonize and

keep rhythm with the heart throbs of the people of Monroe who loved him and honored him for what he was to them. It is seldom that a leader in civil life can command such complete mastery of his environment and the unlimited confidence of his constituents as he did, and as long as he did. But he loved his people with an intensity and singleness of purpose that an affectionate father holds for his only child, and they knew it! Dr. Forsythe's attachment to the city of Monroe and to the welfare of his people, amounted to a passion that seemed to rule all his thoughts and dominate all his acts, to the very end of his extraordinarily useful life. I remember him well even as an undergraduate at the medical school at Tulane in 1887, and in the many notable incidents that characterized his administration during the sixteen years that he was Mayor of Monroe, I recognize the same traits of character that he displayed in his earlier years,—the intelligence, the uncompromising integrity, the fearless courage and the indomitable will with which he guarded the trust reposed in him by the people of his community,—

"When civic strife ran fierce and high,
His was the storm-assuaging speech
That made the wordy tumult die
And linked the neighbors each to each."

It is pleasing to note that notwithstanding the arduous time and thought-absorbing exactions of his public duties, Dr. Forsythe was always a doctor of medicine and never lost touch with his profession and its interests, which he served energetically when called upon, and that he put to good use his knowledge of sanitation for the benefit of his community. It is therefore, with pride in our professional calling and in the versatility of its adepts, that we meet in a city which is so progressive, so dynamically saturated with the spirit of modern civic development and so rich in all the endowments that Nature and man have given it, and which has been strengthened in the foundation laid for its present

and immeasurable prosperity,—by a member of our profession. For Dr. Forsythe while attaining the greatest heights of efficiency and usefulness in an administrative capacity as your chief executive, during the many years that he was the Mayor of Monroe, was always a doctor,—loyal, good and true,—

“One on whom God had set his sign,
The well beloved of all his peers,
But by the poor deemed half divine.”

And now that I have recalled the conspicuous services rendered to our organization by the two distinguished citizens of Monroe, who have honored our membership by contributing so unselfishly, so ably, and so generously to the support and advancement of medical progress, and, in this way, to the welfare of their people,—allow me to renew in 1926, and in these auspicious surroundings, the sentiments of grateful appreciation that I had the honor to convey to them, in behalf of the Louisiana State Medical Society, thirty-one years ago.

And, again, now that I see that my good friend, Newton, has come to grace this occasion with his presence, I will permit myself to speak a word of greeting and of welcome to him, in your presence, though I fear in so doing I may ruffle his modest sensibilities. Three decades and over have rolled by and the chariot of Time has left deep furrows in the road that Dr. Newton and I have traveled to reach this stage of life's journey. Tomorrow we shall move on again, each one to go his way, whither or where, we do not know,—but tonight we alight and rest by the roadside that we may enjoy together that rare privilege of viewing from this height the rich field that has been harvested by our successors from the seed that we helped to sow with the men of 1895.

Dr. Newton: As an old comrade in the early campaigns of the Louisiana State Medical Society for medical progress, and for the betterment of our profession in

Louisiana, I salute you in the name of the veterans of 1894-1895, and rejoice with them that you have reached a reward far greater and sweeter than all the medals, crosses and other glittering decorations that a more militant or ostentatious organization could have pinned upon your breast; for yours is a higher prize, that badge of merit that is wrapped around the heart by the caressing and loving hands of the people whom you have served and whose affections you have won through a life of service and devotion to their happiness and welfare.

As we approach the winter of life and see the autumn leaves falling about us, we are reminded of the Hippocratic admonition that “Life is short, Art is long and the opportunity fleeting.” May I not apply to you, the poet's rejoinder,—

“We live in deeds, not years; in thoughts,
not breaths;

In feelings, not in shadows on the dial.

We should count time by heart throbs; but
he most lives,

Who thinks most, feels the noblest, acts
the best.”

THE MORE COMMON INJURIES TO THE FEMALE PERINEUM AS A RESULT OF CHILDBIRTH.*

TREATMENT OF SAME.

W. D. PHILLIPS, M. D.,
NEW ORLEANS.

The parturient woman is necessarily subjected to many dangers, modern obstetrics has eliminated some of these, but from the standpoint of morbidity, I doubt if there is any complication which is more important than the injuries to the maternal soft parts at time of delivery. The

*Read before the Orleans Parish Medical Society, April 26th, 1926.

possibility of infection is very great; the annoyance of loss of control of either bladder or rectal contents is most distressing and the symptoms which result from later uterine displacements are so marked that I cannot help from thinking that should those of us, doing obstetrical work, keep constantly before us all of the possibilities of injuries to the perineum that we may at least diminish the suffering which some of these cases would have otherwise.

The female perineum is formed of muscles and fascia and is perforated by three openings, the urethra, vagina and rectum, the rectum being the only orifice which is protected by a true and distinct sphincter muscle, the sphincter ani, which is a small muscle arising from the coccyx, completely encircles the rectum and is again attached to its point of origin—its function being to control the rectal contents—in this function it is assisted by the internal sphincter muscle, which is not a true distinct muscle, but a few muscular fibres blended with the walls of the rectum. The levator ani muscle is another important structure forming the perineum; it has two points of origin—one point of origin being from the back part of the neck of the pubis and the other portion arises from the white line which is designated as a point of division of pelvic fascia; from these two points, the muscle fibres extend downward and blend with the walls of the vagina and rectum and finally the largest portion of fibres are attached to the coccyx. The levator ani is the real muscular body of the perineum, its function being to maintain in position the uterus, rectum and bladder. In this important function, it is assisted by the pelvic fascia—uterine ligaments and a group of superficial muscles.

Normally, the uterus is well up in the pelvis in a position of slight ante flexion and it is held in this position by the two supporting planes of the pelvis; the upper one being formed by the sacro-uterine liga-

ments posteriorly—the utero pubic fascia plane anteriorly and the broad ligaments laterally. The lower plane being formed mostly by the levator ani muscle and surrounding fascia—with this normal support the uterus, rectum and bladder remain in position until pregnancy and later delivery takes place, a laceration or relaxation results and the normal relationship of the muscles and fascia is disturbed, resulting in various displacements depending upon the type and extent of the injury to the muscles and fascia.

I do not attempt even to suggest that injury to these structures can be eliminated, but I do believe they can be minimized and even though this is not possible, their prompt and careful treatment will prevent more serious conditions at a later time.

As to the frequency of perineal injuries De Lee has found that 70% of primiparae have the so called 1st degree laceration, 25% of primiparae and 10% of multiparae have lacerations extending well into the perineal body and in 10% the injury exposes the sphincter ani, so called 2nd degree laceration, and only in operative cases does a complete laceration occur.

In my own experience a check on a series of more recent cases convinced me that I did have a very large percentage of first degree lacerations in primiparae in spite of every attempt to prevent same. The percentage of lacerations in multiparae was small and when they did occur, were slight ones except in cases where forceps were used.

As to the predisposing causes of lacerations or relaxation may be mentioned, diseases of the pelvic outlet, lack of elasticity from previous operative scars or constitutional conditions, necessity for rapid delivery with imperfect dilatation; a narrow pubic arch by forcing the head back into perineum, or unfavorable position of the foetal head as occurs in face, brow, forehead or posterior rotation of the occiput,

all of these tend to cause injuries of more or less severity.

I believe that we should resort to every known means of preventing injuries to the perineum, numerous suggestions regarding this have previously been made, such as slow delivery, preliminary dilatation of levator ani muscle, holding back on the presenting part with one hand and supporting the lower portion of the perineum with the other hand, the condition of the fetal heart sound being the guide as to the time permitted to obtain sufficient dilatation; another important step is to deliver the head in forced flexion, this presents to the parturient canal the smallest circumference of the head.

The use of some form of anesthetic at time of delivery is another means of preventing laceration. I use in about 95% of my cases nitrous oxide gas or ethylene, and I am sure it has been responsible for a considerable diminution in the percentage of forceps cases and by this means, the more extensive perineal lacerations have been prevented. In cases requiring podalic version very often extensive lacerations result from the use of the short rubber glove and long-sleeve gown, instead of the long rubber glove and short-sleeve gown which will materially diminish trauma to the soft parts.

In all cases of obstetrics, especially in primiparae, we should anticipate lacerations and be prepared to handle them when they do occur.

Proper preparation of the case should be demanded, and in this connection it seems to me that the hospitals should consider it routine to give all obstetrical cases an enema before delivery, and not wait until receiving orders from the obstetrician to do so; I recall in my own experience one or two badly infected perineums as a result of failure to give enemas before delivery.

In some cases a laceration of perineum seems inevitable and we are con-

fronted with the question, should we allow it to occur, or should we cut the perineum. It does seem the most practical thing to do and in my own work I use episiotomy very often, believing it is much easier to repair a clean incision than an uneven laceration. The value of this procedure was recognized by obstetricians years ago and numerous suggestions were made as to the direction of the incisions, some preferring the lateral or bilatereal, others the median or medolateral. I have had more experience with the latter.

In a recent statistical report of the Chicago Lying-in Hospital it is stated that episiotomy is done in 35.7% of the cases.

If lacerations do occur, they are usually classified into: Lacerations of vulva. Lacerations of the anterior wall and lacerations of the posterior wall.

Posterior wall lacerations are further sub-divided into:

- 1st. Incomplete. A. Median.
B. Lateral.

- 2nd. Complete.

Median incomplete lacerations are usually superficial and may be repaired while waiting for the placenta to become detached, number 2 or 3 chromic cat gut being used. Lateral incomplete lacerations are more extensive and there is usually some injury to the lifting portion of the levator ani muscle; better results will be obtained in these cases if the repair is done after delivery of the placenta and under an anesthetic. A large gauze pack in the vagina will partly control the slight bleeding and keep the operative field dry. In the more extensive or complete lacerations where there is injury to the sphincter ani muscle and possibly the rectum itself, much better results will be obtained if the repair is done 12 to 24 hours after delivery, this permits the primary oedema to subside; the patient being placed on some form of table and completely anesthetized. As to the operative technique, in the incomplete cases approxi-

mation of raw surface and obliteration of dead spaces are the main points to be considered. If the rectum has been injured, I have had better results in the recent cases by suturing the tear in the rectal wall, first with interrupted linen or silk sutures, after these are placed the operative field is cleaned with alcohol and the operator's gloves are changed, as preventing contamination from the rectum is almost impossible. A second layer of Lembert (cat gut) sutures are next placed, and then the torn edges of the sphincter muscle are located and sutured with No. 1 or 2, 20 day chromic cat gut, after this the remaining wound is closed, according to the type of injury; the raw surfaces being approximated. Cat gut would be my choice of suture material unless infection was feared, and in that instance, silk worm gut may be used.

It has been my experience that the results in primary perineorrhaphy has been uniformly as good as the secondary perineorrhaphy.

In a brief review of a series of a hundred recent extensive repairs, I have had two which required secondary perineorrhaphy, and in both of these cases there was an infection of the perineum which I attributed to the fact that the patient did not have an enema before delivery.

I follow the practice of repairing all lacerations during the first seventy-two hours after delivery unless condition of patient is so desperate as not to permit same. I think lacerations of the anterior wall should receive the same attention as posterior wall lacerations, as by so doing, serious bladder displacements will be prevented. Should failure of the primary operation occur, or for certain reasons the immediate repair was not done, a secondary perineorrhaphy should be done, and in this connection I wish to call attention to a condition spoken of as "relaxation," which is nothing more nor less than an over stretching or tearing of the muscular fibres of the

perineal muscles, without any visible injury to the mucous membrane of vagina. This condition is important, because the symptoms produced from it may be just as extensive as in some lacerations, and the obstetrician is frequently blamed by the patient, when at a later time the patient is told that perineorrhaphy is necessary, when in reality, there was nothing which could have been done at delivery to prevent it.

The time at which secondary perineorrhaphy should be performed has been the cause of considerable discussion. Some operators prefer early repair and others late repair. I believe the extent of the laceration and symptoms produced should be the deciding factor. I do not advise repair of all slight lacerations, but in cases in which the lifting portion of the levator ani has been injured, associated with a marked relaxed vaginal outlet, probably a cystocele and rectocele or uterine displacement, should be repaired, as by this means more serious uterine displacements may be prevented. In complete laceration, the symptoms of loss of control of the rectal contents is so annoying, that the patients demand relief and a repair may safely be done four to six months after delivery. The operative technique of secondary perineorrhaphy has been described so often that I will not dwell for any length of time on that subject. The cardinal points are the exposure and suturing of the muscles and the obliteration of dead space. The postoperative treatment of perineorrhaphies is important; I personally prefer the dry method of treatment. After the operation some dusting powder is applied to perineum; I use stearate of zinc. The patient is irrigated after voiding with some antiseptic solution, the catheter is not used unless absolutely necessary, no douches are given until the 7th or 8th day and only then when the discharge is offensive. A sterile pad is kept against the perineum at all times. The temperature chart is watched closely and a continued elevation of tem-

perature should cause us to look for infection. In the incomplete laceration, the bowels may be moved at any time. In the complete lacerations, better results will be obtained by keeping the bowels from moving for a period of six to eight days. Some mild opiate as paregoric may be given and a diet consisting of albumin water, fruit juices and strained broths may be given; on the sixth or eighth day a large dose of oil is given and the nurse is instructed to give the patient an oil or glycerine enema, through a small catheter, when there is a desire for bowel movement this will enable the patient to have a soft bowel movement without excessive strain on the suture line.

Finally, in conclusion, I urge preventing lacerations whenever possible.

The more frequent use of episiotomy.

The immediate repair of all laceration whenever the condition of patient will permit same and the early secondary perineorrhaphies in extensive lacerations with beginning bladder and uterine displacements.

DEMENTIA PRAECOX.

CLARENCE P. MAY, M. D.,

*Clinical Director, East Louisiana State Hospital,
JACKSON, LA.*

On April 29th, 1926, a column appeared in a New Orleans newspaper under the heading, "Olson Declares Dementia Praecox, Chief Crime Cause." Therein, reference was made to an address by a Chicago jurist to members of the Era Club.

The contribution is of interest particularly because it contains statements which are apt to confuse and mislead.

Those concerned with modern principles of prevention, study and treatment of nervous and mental diseases are becoming more convinced that the solution of many difficulties lies in *education*—education of parents and children. Dissemination of precise, reliable information is of inestimable value in furthering education.

Inevitably, in an art and science which is broadening and developing as rapidly as neuropsychiatry, extremism and radicalism are certain to appear. Radical and extreme tendencies, views and practices should be scrutinized with the utmost caution and definite, trustworthy proof of the real value and worth of all theories and treatments should be insisted upon before acceptance and usage is permitted.

That there exists, even in its rudiments, a field of knowledge, the practical application of which "would see the end of crime in a period of sixty years," is merely an assumption.

Dementia implies permanent deterioration of the mental faculties. Dementia praecox is a mental disease which usually develops about the age of puberty and terminates in a peculiar, though variable, state of mental deterioration. Since some of the cases occur considerably later than the adolescent period it may be best to regard dementia praecox as a disease in which deterioration is the precocious manifestation rather than an individual in whom the illness is precocious. According to Kraepelin, sixty percent of the cases appear before the 25th year and rarely does it occur after the age of thirty. Dementia praecox is not defective emotions, though it always causes emotional impairment.

Symptoms of dementia praecox are: Personality alterations, seclusiveness or some other abnormalities of instincts and feelings; interest defects and discrepancies between thought and behavior; blunting of the emotions—indifference or silliness; suspiciousness and delusions of interference, control and persecution; hallucinations or false perceptions; odd and impulsive conduct; disorders of the will, judgment and attention; numerous, peculiar somatic complaints.

A number of factors play a part in the production of dementia praecox, but there

is, as yet, no known single cause or group of causes. There are no changes in the nervous system to which the condition can be definitely ascribed.

Accurate diagnosis is by no means always simple, especially in the early stages of dementia praecox.

In dementia praecox the outlook for complete recovery is unfavorable though some cases become arrested—an adjustment is effected—and the afflicted individual may continue life on a lower mental plane.

There is no known curative treatment for dementia praecox.

Feeble-mindedness, mental deficiency or amentia is the expression of structural physical or nervous system defects. The manifestations are discoverable at birth, or very shortly thereafter, and the mental faculties do not develop. Feeble-mindedness is a lack of mind. Dementia is a breaking down of mind.

Many crimes are committed by those suffering with dementia praecox and feeble-mindedness. This is also true of other types of mental deviates.

The *chromosome* theory is a very attractive, though a complicated one and too lengthy to permit of adequate discussion here; those especially interested are referred to works on physiology, bio-chemistry and chemical pathology. Chromosomes are not blood particles; they are bodies or "threads" developed during cell division and are believed to contain material which conveys hereditary characteristics. "That over 1,000,000 different chromosomes, carrying varying numbers of traits, are present in the human race" is a theory which, in the light of present day knowledge on the subject, can best be met by the challenge—prove it.

A vast field of endeavor awaits those who desire to eliminate crime by eradicating physical and mental defects. Such defects make for social gravitation, and as marriage usually occurs in the same social caste, defects tend to concentrate in the next generation—always something lower is produced. This is the process by which civilization purges itself of undesirable characteristics.

In civilizations less abundantly supplied and equipped than our own the unfit would have been eliminated. There has been a tendency to permit a stasis to develop in the lower levels of society. Because of this stasis and the present differential birth rate, nature alone may be unable to perform the task of eliminating the defective and unfit.

CHRONIC BRONCHITES WITH HEMORRHAGIC SPUTUM, OF NON-TUBERCULAR ORIGIN.*

ALDO CASTELLANI, M. D.,

Professor of Tropical Medicine, Tulane University of Louisiana,

NEW ORLEANS.

For a number of years,—since 1903,—both in the Tropics and in the Temperate zone, I have endeavored to call attention to the importance and comparative frequency of a group of parasitic bronchial and bronchoaveolar conditions which often closely simulate pulmonary tuberculosis. These conditions may be separated into two large groups, (a) due to animal parasites or bronchozoiases; (b) due to vegetal parasites, broncho-mycoses. They may be classified as follows:

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A. Due to animal parasites (Bronchozoiasis)	{	(1) Protozoa	1. Broncho-spirochaetosis
		(2) Metazoa	2. Broncho-amoebiasis
B. Due to vegetal parasites (Broncho-mycosis)	{	(1) Fungi imperfecti	Broncho-paragonomiasis
			1. Broncho-nocardiosis
	Synonyms—		{ Broncho-streptothricosis
			{ Broncho-cohnisstreptothricosis
			{ Broncho-actinomycosis
			{ Broncho-discomycetosis
			2. Broncho-anaeromycosis
			3. Broncho-moniliasis
			4. Broncho-cryptococcosis
			5. Broncho-hemisorporosis
			6. Broncho-sporotrichosis
		(2) Ascomycetes	1. Broncho-saccharomycosis
			2. Broncho-endomycosis
			3. Broncho-oidiosis
			4. Broncho-aspergillosis
			5. Broncho-penicilliosis
			6. Broncho-acremonelliosis
			7. Broncho-cladosporiosis
			8. Broncho-accladiosis
			9. Broncho-sporotrichosis
		(3) Phycomycetes	Broncho-mucocormycosis

I will limit myself today in briefly touching upon one of these conditions, namely, broncho-spirochaetosis.

Synonyms.—Pulmonary spirochaetosis, broncho-spirochaetosis, Castellani's bronchitis (Galli Valerio), Spirochétose broncho-pulmonaire de Castellani (Violle), *Bronchite sanglante* (Violle).

Definition.—*Broncho-spirochaetosis*, sensu lato, is a term used to cover all bronchial and broncho-pulmonary conditions associated with the presence of a large number of spirochaetes in the sputum.

History.—The history of *Broncho-spirochaetosis* is, briefly, the following: In 1904, in Ceylon, two natives came to consult me for recurrent *haemoptysis*. I kept them under observation for many months, but never succeeded in finding the tuberculosis bacillus. The sputum, instead of the bacillus of tuberculosis, contained an enormous number of *spirochaetes*; in fact, in the bloody portions of the expectoration these parasites were practically the only organisms present. The spirochaetes almost completely disappeared during periods of quiescence, to reappear again in huge numbers every time the symptoms became acute. I came therefore, to the conclusion that

there was probably a form of hemorrhagic bronchitis of spirochaetic origin. Later, I came across many other cases, and my work was confirmed by Branch in 1907 in the West Indies, and by Jackson in 1902, and in the Philippine Islands. In 1909 Waters described numerous cases of the diseases occurring in India, and Phalen and Kilbourne a case in the Philippine Islands where, in 1911, Chamberlain recorded 2 more cases.

In 1913 Chalmers and O'Farrell carried out an investigation on the malady in Sudan, and succeeded in reproducing it in a monkey. In 1914 Taylor investigated the condition in Uganda. In 1915 Fantham published a classical paper on *Spirochaeta bronchialis*, studying it completely from a morphological point of view, and described its granular stage and the intracellular forms of the parasite.

In the same year Macfie reported cases from West Africa, and Galli-Valerio recorded several interesting cases of the malady in Switzerland, and Lurie and myself one in Serbia. In 1917, Violle first noted the affection in France, and a number of cases were reported by Bine, Dide, and Riberau, by Netter, Dalimier, Barbary,

and others. In 1919 Farah described several cases in Egypt, and Alcock a case occurring in a British soldier, in Northern Italy. Villa, and Corvetto, and, more recently, many other observers have recorded cases in South America; Clark and Facio in Central America; Mendelson in Siam; Levy, Bloedorn, and Houghton in North America; Broughton, Alcock, and Browne in England; and Iacono, Trocello, and others in Italy. Recently an interesting communication on *Broncho-spirochaetosis* in China has been published by Faust; Mouchet and Van Nitsen have found the disease in Katanga, and De Mello and De Andreis have reported cases from Portugal. Special mention must also be made of the important, very complete, paper by Farah in the "Journal of Tropical Medicine," April 2, 1923. The important work by Johns and Maes must also be mentioned.

Geographical Distribution.—The disease has a cosmopolitan distribution but it is apparently more common in certain parts of the Tropics and sub-tropics than in the Temperate zone. It has been reported from practically every country in the world and during recent years numbers of cases have been placed on record in this country.

Etiology.—Various types of spirochaetes found.

The spirochaetes found, as I noted in my very first paper, may be of very different morphological appearance. In the present state of our knowledge, I think that the following classification might be accepted. The spirochaetal organisms present have a few spirals of different size; spirochaete *sensu stricto*; a second group, the spirochaetal organisms have numerous small equal waves close together—*treponema* type. The first group may be divided into sub-groups: if the spirochaete is very delicate—*spirochaete bronchialis s. minuta*. If the spirochaete is coarse, *s. buccalis*, *spirochaete vincenti*, etc.

With regard to the spirochaete which I called *bronchialis* in 1907, it has been

thoroughly studied by the well-known protozoologist, Professor Fantham.

The spirochaete is extremely polymorphic; its length varies between three and thirty microns, its breadth between two-tenths and six-tenths microns. Fantham states that of two principal types found, those seven to ten microns and those between fourteen and sixteen microns, he believes that the former originate by a transverse division from the latter.

Spirochaete bronchialis, according to Fantham, Chalmers, and O'Farrell and Taylor, differs from the common mouth spirochaetes in the following points:

1. It is more actively motile.
2. It dies very quickly in fresh preparations of sputum.
3. It is stained with more difficulty.
4. According to Fantham, there is an intracellular stage, which is absent in the oral parasites.

Spirochaeta Minuta.—This is an extremely minute spirochaete which I found in certain cases of broncho-spirochaetosis following spirochaetic rhino-pharyngitis. It is very delicate, more delicate than *s. bronchialis*. It can be put in evidence by the ultra-microscope, or by staining with various modifications of Romanowsky, the best for this particular spirochaete being apparently Jenner's modification. Silver methods of staining (especially using Fontana-Tribondeau's technique) give good results. In preparations stained with Romanowsky, or other modifications of this method, the organism takes often a pinkish-red or purplish tinge. The length of the organism varies from three to ten or twelve or more microns. The beginner should be careful not to mistake for spirochaetes undulating fibrin threads, particles of detached ciliated epithelium and detached cilia.

Spirochaeta Vincenti.—A description of this organism was never given and the

term has been applied to the most different spirochaetal germs. The modern tendency is to limit it to the more coarse type of oral spirochaetes.

Organisms found together with the spirochaetes.—It is seldom, if ever, that the spirochaete is found alone in the lesion. It is usually accompanied by various bacteria: streptococci, pneumococci and, in addition to the so-called fusiform bacillus, also an organism which I have called macro-vibrio is often present. The fusiform bacillus is a long fusiform organism; the macro-vibrio of Chalmers and myself is curved, comma-like, at times banana-like.

Predisposing Causes.—A chill often acts as a predisposing cause.

Method of Infection.—According to Chalmers and others, infection takes place in most cases from affected to healthy persons, the spray exhaled in coughing being contaminated with the spirochaetes or with the resistant coccoid bodies. According to other authorities, *spirochaeta bronchialis* and the other spirochaetes found in cases of broncho-spirochaetosis are present in the mouth; a chill, an operation, etc., may decrease the organic resistance of the carrier and increase the virulence of the organism in a way somewhat similar to what is the case of pneumococcus and other micro-organisms.

Experimental Reproduction.—Chalmers and O'Farrell reproduced the Sudan type of the disease in monkeys. Attempts to infect guinea pigs always failed. The putrid type of the condition has been experimentally reproduced in rabbits by intra-bronchial injection of material from dental caries containing innumerable spirochaetes and also fusiform bacilli.

Morbid Anatomy and Histopathology.—The morbid anatomy and histopathology of broncho-spirochaetosis have not yet been completely investigated. I have seen three autopsies and in all of them there was a

patchy consolidation of both lungs and, in two of them, several small foci of necrosis the size of a small pea to a cherry. The cavities varied in size up to one centimeter in diameter. The mucosa of the bronchi was swollen and injected but no bronchetisae were present. Some of the peribronchial glands were enlarged but in none was there any presence of caseation. The microscopical examination of stained sections shows well marked infiltration and, when the Levaditi Method has been used, large numbers of spirochaetes are seen. It must be noted, however, that in addition to spirochaetes, other organisms are usually present: cocci, streptococci, also fusiform bacilli and organisms of the macro-vibrio type.

Symptomatology.—Two types of the disease may be recognized: acute broncho-spirochaetosis and chronic broncho-spirochaetosis.

Of the first type, two varieties have been described: the acute bronchial or influenzal variety, the pneumonic variety.

Chronic type: the following principal varieties are now generally recognized: (1) With muco-purulent hemorrhagic sputum. (2) With purulent expectoration. (3) With putrid expectoration. Two other varieties may be mentioned: the asthmatic variety which has been studied principally by Farah, and a variety following on rhino-pharyngitis spirochaetica as described by me.

Acute broncho-spirochaetosis.—This type at times resembles influenza. The onset is often abrupt, the patient feeling chilly and complaining of rheumatoid pains all over the body and developing fever which generally is not very high. The fever may last ten to twelve days. The patient coughs a great deal and expectoration is scanty, muco-purulent, very seldom containing traces of blood. In most cases the general condition of the patient is hardly affected, in others there is great prostration. In the

pneumonic type there may be signs,—generally not very typical,—of lobar pneumonia, but this condition does not resolve and the patient is generally discharged from the hospital as a case of unresolved pneumonia.

Chronic forms of broncho-spirochaetosis.—Muco-purulent, or muco-hemorrhagic type. The onset is often quite insidious and slow, the patient has a chronic cough which is at times more severe in the morning. Sometimes genuine attacks of hemoptysis occur, one or two teaspoonfuls or more blood being brought up. In some cases there is no fever, in others a serotine hectic-like fever may be present. Occasionally the rise in the temperature takes place in the morning and not in the evening. In other cases the temperature chart is most irregular. The physical examination of the chest may reveal little but at times clear signs of patchy consolidation are present. The general condition of the patient may remain fairly good for a long time though a certain degree of anemia is often present. In a few cases severe rapid wasting takes place. The course of this type of the disease may be prolonged with periods of great improvement and even apparent cure. The two original cases I studied in Ceylon in 1905 were still alive when I left the Island in 1915.

X-ray Examination.—In mild cases, the X-ray examination shows little or nothing. In several cases the picture may be suggestive of tuberculosis. It may show mottling areas of patchy infiltration and diffuse peribronchial thickening.

Purulent Type.—In this type the patient has often a high intermittent fever and cough up a very large amount of purulent expectoration, occasionally mucus with blood. In these cases bronchitis are often suspected but in my experience they are not common and no vomica takes place. It is interesting to note that in a certain number of cases of the purulent type the

spirochaetic organisms have a treponema appearance.

Putrid type.—The symptoms are very similar to those seen in the purulent type, but the expectoration has a very offensive odor.

Asthmatic type.—In the asthmatic variety to which, as I have already said, Farah has paid much attention, the patient shows signs of chronic bronchitis and now and then has an attack of typical asthma.

Broncho-spirochaetosis following Rhino-Pharyngitis.—Some years ago I described rhinitis rhino-pharyngitis spirochaetica which clinically can hardly be distinguished from an ordinary attack of coryza. In some cases, after the coryzal symptoms have disappeared or during the coryzal period, bronchitis develops with muco-purulent expectoration containing a very large number of spirochaetes identical with those found in the pharynx and nose. The spirochaete, in most cases of this type, is extremely delicate, so much so, I gave it the name of *Spirochaeta Minuta*.

Illustrative Cases.—To avoid the personal equation, I will report a case thoroughly investigated by Bloedorn and Houghton and published in the Journal of the American Medical Association, Volume 76, also a case described by Iacono in the Journal of the American Medical Association, March, 1920:

Case 1. (*Bloedorn and Houghton.*)—A white man, aged 18, unmarried, was admitted to the hospital complaining of headache, pains in the back and shoulders, weakness, cough, and expectoration of blood-streaked mucus. Temperature 103, pulse 96, respiration 20. Teeth in good condition, no exudate on tonsils. Heart negative. Examination of the lungs disclosed only a few scattered rales at both bases, no impairment of resonance.

Clinical Course.—The patient continued to have fever with temperature varying from 100 to 102 in the morning, and 103 to 104.3 in the evening. Profuse night-sweats occurred with great regularity, and the patient during the first 3 weeks of his illness lost 20 pounds.

There was a slight cough and rather free expectoration of a thin, muco-purulent, blood-streaked sputum. The prostration during the course of the disease was not marked, and the patient stated that he felt fairly well, but weak. The case resembled so strongly, in its clinical course, a pulmonary tuberculosis, that every effort was made to confirm such a diagnosis. The laboratory findings, Roentgen-Ray findings, and physical examination, however, failed to demonstrate the existence of such an infection. Wassermann and Noguchi negative. During the course of the repeated sputum-examinations it was noticed that, while the sputum was negative for tubercle bacilli, there were constantly present a large number of spirochaetes.

The presence of these organisms was at first not regarded as significant, and it was only after repeated attempts to establish a definite diagnosis in this case that their presence was regarded seriously. Their constant presence in the sputum after the teeth had been cleaned and the throat cleared with a mild antiseptic gargle, together with the absence of a lesion of the tonsils or pharynx which account for their presence, appeared significant and strongly suggested the diagnosis of "bronchial spirochaetosis."

It was decided to try the effect of an arsenical spirochaetocide, and on the 20th day 0.6 gm. of neo-arsphenamin was given intravenously, and on the 21st and 22d days the temperature again rose to 101 in the evening. On the 24th day 0.5 gm. of neo-arsphenamin was given intravenously, following which injections of 0.9 gm. of neo-arsphenamin were given at intervals of 1 week, although the patient had shown no rise of temperature in the meantime, and was steadily improving. Following the injections of neo-arsphenamin the improvement in the patient was striking. The prompt termination of the fever, the rapid decrease in the number of spirochaetes and their ultimate complete disappearance from the sputum, the prompt cessation of the cough, and the disappearance of the blood from the expectoration, which itself became almost negligible in quantity, leave little room for doubt regarding the efficacy of these injections.

Two months following the onset of the disease, the patient had regained his loss of 20 pounds, had been up and about for several weeks, and was able to resume his original duties. Before discharge from the hospital he was given an injection of 10 mg. of tuberculin, following which he showed no reaction.

Case 2 (Iacono).—Miss E. B. No previous disease of importance. Present illness began 11 days before I saw her, with general malaise,

rheumatoid pains all over the body, and dry cough. The fever remained high and continued for several days, then it dropped in the morning and assumed a serotine type. Rather suspicious subcrepitant rales were found upon physical examination of the chest, in the left apex, and this fact, together with the serotine fever and sputum tinged with blood, led the family doctor to suspect tuberculosis of the lungs. When I was called in, the patient was very pale and feeling very weak, upon examination of the chest, no zones of dullness were found. Moist and dry rales were present all over, but no crepitant ones. Pulse 90, pressure rather high. Heart normal. As regards the abdominal organs, the spleen was not enlarged, liver just palpable. Urine contained a trace of albumin, and there was a slight increase in the phosphates, and indican. Blood: red-blood corpuscles, 4,000,000 per cm.; leucocytes, 9.00; hemaglobin, 70 (Fleischl). As to the leucocytic formula, there was an increase in the eosinophiles and lymphocytes. No malaria parasites and no spirochaetes were found. Examination of the sputum for tubercle bacilli, negative. Several glucose-agar tubes were inoculated, but no fungus was grown. The microscopical examination of films from the sputum stained with Giemsa, revealed presence of a large number of spirochaetes of variable length, 5 to 20 microns, and with 3 to 6 undulations. In fresh preparations examined with the ultra-microscope, numerous very motile spirochaetes were seen. I made a diagnosis of *broncho-spirochaetosis* and prescribed the mixture recommended by Castellani, the formula of which is:

Tartar emetic	gr iii
Syr. tolu	3i
Aq. chlorof.	ad 3iij

1 teaspoonful in water every 2 hours.

Mixed Infections.—Cases of mixed infections, tuberculosis and spirochaetosis, bronchomycosis and spirochaetosis are occasionally met with. It may be mentioned here that Breton and others believe that when in a tubercular patient, hemoptysis takes place, the hemorrhagic sputum is caused not by the bacillus tuberculosis but by a spirochaetic infection which has become engrafted on the tubercular condition.

Diagnosis.—This is based on the microscopic examination of the expectoration collected after rinsing the mouth and gargling with sterile water. It is essential to carry out the examination on fresh sputum,

both using the dark ground illumination and also by staining with one of the modifications of the Romanowsky Method or the nitrate of silver staining methods such as the Fontana-Tribondeau, may be employed. The sputum, especially the hemorrhagic part of it, teems with spirochaetes, while bacteria are extremely few. The spirochaetes greatly decrease in numbers or completely disappear when the bronchial condition improves.

Differential Diagnosis.—The condition has often been confused with pulmonary tuberculosis but the examination of the sputum for tuberculosis bacilli will be negative and the animal inoculations will remain without any effect. The optho- and cuti-reactions are negative in the great majority of cases. Occasionally, however, cases of mixed infection of tuberculosis and spirochaetosis occur. From bronchomycosis the affection is differentiated by the absence of fungi. Cases of double infection, broncho-spirochaetosis and bronchomycosis may at times be observed, though rarely. Spirochaetosis is easily distinguished from endemic hemoptysis by the examination of the sputum which will show absence of the ova of *Paragonimus ringeri* Cobbold.

Prognosis.—The prognosis, except in the very severe cases of the purulent and putrid types, is favorable *quoad vitam* but the disease runs a very chronic course and, although periods of great improvement may take place, a true spontaneous cure is practically unknown.

Treatment.—Two drugs have been found useful by myself and later by many others: Arsenic and Tartar Emetic,—the former has a much more powerful and rapid action than the latter.

Severe Cases—Arsenic in the form of salvarsan or neo-salvarsan should be given intravenously in 0.3 gram and 0.5 gram doses, once or twice a week, the technique being the same as in syphilis.

Mild Cases.—In mild cases oral treatment by various arsenical preparations and tartar emetic, may be carried out. I have found the following formulae useful:

1. Tartar emeticgr. iii
Syr. tolu.3i
Aq. chlorof. ad.3iii
1 teaspoonful in water every 2 hours.
2. Tartar emeticgr. V
Sodii bi-carbonategr. XXX
Glycerine3i
Aq. chlorof.3i
Aq. ad.3iii
Sig. 1 teaspoonful t. d. well-diluted in water.
3. Liq. arsenicalismXXIV
Tartar emeticgr. ii
Codeingr. ii
Glycerine3i
Syr. tolu.3i
Aq. chlorof. ad.3VI
Mise 4 ounces.
1 tablespoonful t. d. well-diluted in water.
4. Tartar emeticgr. $\frac{1}{4}$ to $\frac{1}{2}$
Sodii bi-carbonategr. X
Glycerine3i
Aq. ad.3iii
Sig. 3i t. d.
5. Tartar emeticgr. 2-3
Codeingr. 2-3
Syr. tolu.3i
Aq. chlorof. ad.3VI
Sig. tablespoonful t. d. well-diluted in water.
6. Tartar emeticgr. 2-3
Potass. iodide3i
Sodii bi-carbonate3ii
Glycerine3i
Syr. tolu.3i
Aq. chlorof. ad.3VI
1 tablespoonful t. d. well-diluted in water.
7. Sulphurgr. iii
Pul Ipecaq. co.gr. $\frac{1}{2}$
Guaiacol carb (Duotal)gr. X
Sodii benzoategr. X
Fiat pulv.
i powder t. d.

Prophylaxis—As some of the spirochaetes causing broncho-spirochetosis are probably always present in the mouth, mouth-hygiene is of great importance and the teeth should be kept in good condition.

BRONCHO-MYCOSES.

Affections of the bronchi and lungs, associated with the presence of fungi in the sputum, are not at all rare, though comparatively little attention has been paid to them till recently. These conditions may be due to a variety of fungi, belonging to different species, genera, families, and orders, but from a practical point of view may be classified as follows:

1.—Due to fungi of the genus *Nocardia* Toni and Trevisan, 1899, *Cohnistreptothrix* Pinoy, 1911, and *Anaeromyces* Castellani, Douglas and Thompson, 1921; *Malbranchea*.

2.—Due to fungi of the genus *Monilia* Persoon, 1797; *Oidium* Link, 1890; *Saccharomyces* Meyen, 1833; *Willia* Hansen, 1904; *Cryptococcus* Gilchrist and Stoker, 1896; *Coccidioides* Rixford and Gilchrist, 1898.

3.—Due to fungi of the genus *Hemispora* Vuillemin, 1906.

4.—Due to fungi of the genus *Aspergillus*, 1729; *Sterigmatocystis* Cramer, 1869; *Penicillium* Link, 1908; *Mucor* Micheli, 1729; *Rhizomucor* Lucet et Constantin, 1900; *Lichtheimia* Vuillemin, 1904, *Acremoniella*.

5. Due to fungi of the genus *Sporotrichum* Link, 1809.

6.—Due to fungi of the genus *Acladium* Link.

7.—Due to fungi which have not yet been classified.

The symptoms are somewhat similar, whichever fungus is the aetiological factor. In mild cases there are signs of slight bronchitis with muco-purulent expectoration, in which the fungi are found. In severe cases the patient presents all the symptoms of phthisis, with hectic fever and haemorrhagic expectoration. Mild cases may get cured spontaneously; but they are often benefitted by potassium iodide.

The prognosis varies a great deal, according to the causative fungus; the cases due to *Nocardia* have the worst prognosis.

I will briefly describe a few of the broncho-mycoses I have mentioned, viz: broncho-nocardiasis, broncho-moniliasis, broncho-haemisorosis, and broncho-anaeromycosis.

BRONCHO-NOCARDIASIS.

Broncho-nocardiasis is the modern term used to denote all bronchial and broncho-pulmonary affections due to fungi of the genus *Nocardia*, Toni and Trevisan, and the genus *Chonistreptotrix* Pinoy which were previously more commonly known as *Streptothrix*, *Actinomyces*, *Discomyces*, *Oospora*.

Two types of broncho-nocardiasis may be separated. One is characterized by the presence of fungal granules (sclerotia) in the sputum-granular broncho-nocardiasis.

In the other type no such granules are present — Agranular broncho-nocardiasis. The first type is still often referred to as *Actinomycosis bronchialis*, or *pulmonalis* and the second type as *Pseudo-actinomycosis bronchialis* or *pseudo-actinomycosis pulmonalis*. Before proceeding with the subject, it may be of advantage to give a few botanical data on the nocardial fungi. These fungi belong to the order *Microsiphonales*. This order is characterized by the mycelium being composed of fine bacilliform hyphae, usually 1 micron or less in diameter. They are, as a rule, gram-positive when young, and without distinct nuclei; they are parasitic or saprophytic.

The order *Microsiphonales* has the following families:

A.—*Nocardiaceas* Castellani and Chalmers, 1918 (Synonyms, *Actinomycetes* Lachner-Sandoval, 1898; *Trichomycetes* Petrusky, 1903).

Definition.—*Microsiphonales* with a mycelium.

Type Genus.—*Nocardia* Toni and Trevisan, 1889.

B.—*Mycobacteriaceae* Miehle, 1909.

Definition. — Microsiphonales without a mycelium.

Genus 1. *Mycobacterium* Lehmann and Neumann, with the diphtheria bacillus as a type.

Genus 2. *Corynebacterium* Lehmann and Neumann, with the tubercle bacillus as a type.

FAMILY NOCARDIACEAE.

Synonyms. *Actinomycetes* Lachner-Sandoval, 1898; *Trichomycetes*, Petrusky, 1903.

Definition. Microsiphonales with a mycelium.

Type genus. *Nocardia* Toni and Trevisan, 1889.

Classification: This family contains 2 genera:

A. Grows aerobically, easy of cultivation, and producing arthrospores. Genus 1, *Nocardia* Toni and Trevisan, 1899.

B. Grows best anaerobically, but can often grow aerobically, difficult of culture, and not producing arthrospores. Genus 2, *Cohni-streptothrix* Pinoy, 1911.

The reader interested in mycology may find further particulars on these fungi in Castellani and Chalmers' "Manual of Tropical Medicine," 3rd edition, pages 1040-1062.

AGRANULAR BRONCHO-NOCARDIASIS.

(*Broncho-streptothricosis*, *Pseudo-actinomycosis*)

This is one of the most serious types of Broncho-mycosis. It generally runs a chronic course, although occasionally acute cases are met with. The patient loses flesh, becomes anaemic, often has serotine fever; expectoration is at first muco-purulent, later tinged with blood; true haemoptysis may occur. The physical examination of the chest may reveal patches of dullness, crepitations, and pleural rubbing; occa-

sionally, however, the physical examination will reveal nothing at all.

The microscopical and cultural examination of the sputum is most important, segments of thin, bacillary fungi will often be found, branching, at times acid-fast, at times not acid-fast but gram-positive. Aerobic and anaerobic methods of cultivation should be used, as some nocardias (*cohnistreptothrix*) grow only anaerobically.

The treatment of these cases consists of giving potassium iodide in large doses internally and autogenous nocardia-vaccines by hypodermic injection. Occasionally this mixed treatment gives good results, but in my experience most cases do not answer to this or any other treatment I know of, and end in death.

GRANULAR BRONCHO-NOCARDIASIS.

(*Broncho-actinomycosis*.)

The clinical symptoms are very similar to those observed in Agranular broncho-nocardiasis, but the sputum contains small granules composed of an enormous number of thin mycelial filaments, mixed with some debris. This type of nocardiasis is more amenable to treatment than the agranular type, and potassium iodide in large doses is fairly frequently successful.

ILLUSTRATIVE CASES.

(*Agranular broncho-nocardiasis*.)

Case 1. European, male, 32 years of age, a planter in various tropical countries during the last 12 years. Two years ago he began complaining of slight cough, with very little expectoration. The physical examination of the chest revealed little, apart from a slight diminution of resonance in the left supraclavicular region. Cuti reaction negative.

The sputum was examined 12 times for tubercular bacillus with constantly negative results. Instead a branching, gram-positive, partially acid-fast organism was present, which I succeeded in growing. A protracted course of potassium iodide treatment, combined with the subcutaneous ad-

ministration of autogenous vaccine, prepared with the fungus, was very successful.

Case 2. This is a most interesting case investigated at St. John's Hospital by Dr. Woodward, who has kindly allowed me to quote it and has supplied me with the following notes:

Captain served through the war, and after demobilization went to Thodesia where he had previously resided. In the early summer of 1922 he began to feel unwell and showed loss of weight, and had a cough and some expectoration. A few weeks after this, he started to come home on leave to England, and the condition progressed. On his arrival in England he came to see me and told me this history: He had lost a considerable amount of weight and brought up sputum that at times was bloodstained. He looked very ill, and appeared to be in a condition of rapid phthisis. On examining a direct smear of his sputum, I found it full of a net-work of branching rods, showing numerous ramifications, being acid-fast with Ziehl-Nielsen stain. He had an even temperature, for some little time, which varied from 100 to 101. Shortly after this he went under the care of a physician, who tried all sorts of treatment of a medicinal nature without its having the slightest effect on the condition.

My findings of nocardia (*streptothrix*) was confirmed in July last year by Dr. Benians, who inoculated a guinea pig intravenously. The animal showed considerable wasting, and was killed on the 16th day. Multiple nodules were scattered throughout the viscera. In August, 1922, specimens of the sputum were sent to me periodically, always showing the same microscopical picture. Owing to the presence of pyorrhoea in the patient, I was asked to examine his gums. I did not find the nocardia, but there were spirochaetes very largely mingled with fusiform bacilli.

The clinical picture showed a steady development, the patient continuing to go gradually down hill.

In November there appeared two pyemic abscesses—one in the neck and the other in the side. I examined the pus from both of these places, and in direct smears they both showed the *streptothrix* to be present in very large quantities. No other organism was seen, nor was there any growth obtained of any other organism.

He died in the month of November, 1922.

I find that the organism was markedly acid-fast with Ziehl-Nielsen stain, but after keeping, the color tended to disappear. It was gram-positive, and showed distinct variations of stain-

ing inside the rods. The organism from the sputum was at first anaerobic, and I grew it in a glucose broth. Later when I obtained the organism from the pus, it was aerobic and anaerobic and grew very much more easily on any media than when I had obtained cultures from the sputum. It showed a white, flowery-looking growth. I gave intra-peritoneal inoculation into a guinea pig and it died on the eighth day.

GRANULAR BRONCHO-NOCARDIASIS.

Case 1. A Serbian soldier, aged 23, presented all the usual clinical symptoms of pulmonary tuberculosis, great loss of flesh, serotine fever, bloody expectoration. The physical examination of the chest revealed patches of dullness with crepitations and pleural rubbings. The sputum was muco-purulent, occasionally tinged with blood. It contained at times some very small whitish granules the size of a pinhead, composed of an enormous number of thin, mycelial filaments, branching, gram-positive and partly acid-fast. The fungus grew fairly well aerobically on maltose and glucose Agar. The colonies developed slowly, were hard, and firmly attached to the medium. They were of a pinkish color, and gelatine was slowly liquified. Potassium iodide was administered in large doses and also hypodermic injections of an autogenous nocardial vaccine, but without any marked beneficial result.

Case 2. Young Indian student, 20 years of age. His medical attendant sent him to me as he suspected tuberculosis, but he could never find the tuberculosis bacillus in the sputum. The patient was very thin and had serotine fever and sweatings; he coughed a great deal; the expectoration was at times muco-purulent, at times haemorrhagic. I had him cough, in my presence, into a sterile Petri-dish, and in the sputum, which was muco-purulent, I noticed several minute, yellowish bodies, or granules, which the microscopical examination revealed as composed of thin mycelial elements, gram-positive, but not acid-fast. I grew the fungus with great difficulty. Potassium iodide in very large doses (gr. xxx. 3 times a day) without any vaccine had an almost wonderful effect; within 5 weeks all the symptoms disappeared.

BRONCHO-MONILIASIS.

I first called attention to this bronchial affection in Ceylon, in 1905, and valuable work on the subject has been carried out recently by a number of authors, Chalmers, O'Connell, Farah, Macfie, Iocono, Taraknath Sur, Thones, Pollacci, Redaelli, Perin,

etc. The condition, however, is still little known, though it has been found in many tropical and sub-tropical countries, and also in temperate zones.

Pinoy has described cases in France, Pijper in South Africa, Macfie in West Africa, and Chalmers and MacDonald and Farah have observed a number of cases in the Soudan and Egypt. Taraknath Sur has made a thorough study of the disease in India. Iacono has found several cases in the south of Italy, and cases have recently been found in England by Douglas, Thompson and myself, and in America by Johns, Boggs and Pincoff and Simon. The condition appears to be caused by several species of the genus *Monilia* Persoon, usually *M. tropicalis* Castellani, *M. Pinoyi* Castellani, *M. krusei* Castellani, and *M. metalondinensis* Castellani.

BRONCHO-MALBRANCHEASIS.

Cultures on Glucose Agar white with duvet or a powdery surface, later become pinkish or reddish. The microscopical examination shows mycelium constituted of very thin hyphae 0. 7-1.5 micron, septate. The fertile hyphae contain cylindrical or oval thallospores at first hyaline, then pinkish.

The symptoms are identical to those found in agranular nocardiasis. The only case so far published is one described by Bolognesi, Churco, Pollacci and Narmoggi.

As regards the botanical characters of the genus *Monilia*, the original definition by Persoon is "stipitata aut effusa byssoidea. Fila Moniliformis articulata." These fungi are stated to be characterized by the sporophores being simple or sub-simple, and producing by constriction at their extremities a chain of large lemon-shaped conidia, often provided with a disjunction apparatus. The general tendency at the present time, however, is to extend the term "*Monilia*" so as to include all those organisms of the family "Oosporaceae Saccardo, 1886, the vegetative body of which (Thal-

lus) in its parasitic life (in situ, in the lesions) appears as a mass of mycelial threads and free budding forms, some of the mycelial filaments being long and branched, and of rather large size, and often presenting arthrospores. In the saprophytic life (cultures on the usual solid laboratory media) mostly yeast-like roundish or oval bodies are seen, while mycelial filaments are very scarce, or absent, and when present they are rather short and consist only of a few articles. *Monilia* fungi very often ferment glucose and other carbohydrates with production of gas.

For practical purposes *Monilias* may be conveniently classified, according to some of their biochemical characteristics, as follows:

1. Gas produced in glucose only: *Monilia balcanica* Castellani group.
2. Gas produced in glucose and levulose only: *M. krusei* Castellani group. Gas produced in glucose, levulose, and maltose: *M. Pinoyi* Castellani group.
4. Gas produced in glucose, levulose, maltose, and galactose: *M. metalondinensis* Castellani group.
5. Gas produced in glucose, levulose, maltose, and galactose: *M. tropicalis* Castellani group.
6. Gas produced in glucose, levulose, and saccharose: *M. guillermondi* Castellani group.
7. Gas produced in glucose, levulose, galactose, and saccharose and inulin: *M. macedoniensis* Castellani group.
8. Gas produced in dextrin, in addition to other sugars: *M. pseudoloninensis* Castellani group.
9. Gas produced in lactose in addition to other sugars: *M. pseudo-tropicalis* Castellani group.
10. Absence of gas fermentation in any sugar: *zeylanica* Castellani group.

It must be kept in mind that certain sugar reactions are not constant, and several species of *Monilia* may, after a time, lose their power to ferment some carbohydrates. Hence the determination of some species can be carried out only with strains very recently isolated. It must also be kept in mind that *Monilias* presenting the same biochemical reactions may differ enormously as regards pathogenicity. Some may produce a severe infection when inoculated into rabbits, others may be quite harmless.

Clinically, a *mild type* and a *severe type* of the malady may be differentiated, with, of course, a number of intermediate cases. In the *mild type* the general condition of the patient is good and there is no fever. The expectoration is muco-purulent, often scanty, and does not contain blood. The physical examination of the chest is negative or reveals only a few rales. The condition may last for several weeks or months, or get cured spontaneously, or continuing, may turn into the *severe type*.

The *severe type* closely resembles phthisis. The patient becomes emaciated, there is hectic fever, and the expectoration is often haemorrhagic. The physical examination of the chest may show patches of dullness, fine crepitations, pleural rubbing. This type may end fatally.

The treatment consists in giving potassium iodide, with which glycerophosphates and balsamics may be associated. It is interesting to note, however, that in a certain number of cases potassium iodide has practically no beneficial action whatever. Vaccines are occasionally useful.

ILLUSTRATIVE CASES.

Case 1. A. T. S., male, pensioner, born 1890, joined the British Army in 1914. While serving in 1916 noticed slight cough with scanty expectorations, but his general condition of health was fairly good. Ailment continued till December, 1921, when the sputum began to be bloody and the patient began losing flesh. Weight in July, 1919, was 11 stones, 4 pounds; March,

1922, 9 stones, 8 pounds; June, 1922, 8 stones, 13 pounds.

He was suspected to be suffering from tuberculosis and was sent to the Ministry of Pensions Hospital, at Orpington, on March 31, 1922, for observation. His general condition of health was fairly good, but he was very thin. The patient had a slight serotine fever of low type, 99 F. to 99.4, not influenced by quinine. There were not regular sweats. The cough was more severe in the morning than at night. The examination of the chest did not reveal anything very definite. A few coarse rales were present; the X-ray examination did not show any evidence of tuberculous lesions. Complement deviation test for tuberculosis bacillus, negative. Wassermann negative.

The sputum was examined for the tuberculosis bacillus many times—always negative. A fungus was grown with the characteristics of *Monilia metalondinensis* Castellani.

He was treated with potassium iodide and creosote, and all the symptoms disappeared. He was discharged from the hospital as cured, but we kept in touch with his family doctor, who wrote to us some months afterward that the patient was feeling well and was able to do a day's work.

Case 2. Col. A. S., while in India, developed symptoms of subacute bronchitis with muco-purulent expectoration and occasionally haemorrhage. He was diagnosed as a case of Broncho-moniliasis and sent home. I was able to confirm the diagnosis. He got well on potassium iodide and creosote. In this case the *Monilia* was of the Pinoyi type.

INOCULATION EXPERIMENTS IN THE LOWER ANIMALS.

In Ceylon I carried out a fairly large number of researches on the virulence of various *Monilias* and the experimental reproduction of Broncho-Moniliasis. More recently Douglas, Iacono, Redaelli, and others have worked on the subject in England and Italy. The results of these researches may be condensed briefly as follows:

1. A few *monilia* strains are non-virulent. Their inoculation into rabbits and guinea pigs by the sub-cutaneous, intravenous, intraperitoneal, intrapleural, intrapulmonary route does not kill either the rabbit or the guinea pig, and the inoculated

animals do not show any sign of sickness. These strains have generally been isolated from the air.

2. Certain monilia strains are virulent and kill the rabbit and guinea pigs, when inoculated intravenously or intrapulmonary, but do not produce any evident pseudo-tubercular nodular condition of the lungs.

3. Certain Monilias when inoculated intrapulmonary (and at times intravenously) produce a peculiar nodular condition of the lungs. For instance, if $\frac{1}{2}$ or 1 cc. of a thick emulsion of *Monilia metalondinensis* Castellani strain C (isolated from a severe type of Broncho-moniliasis) is injected intrapulmonary in a rabbit through the thorax by means of a syringe and the animal is killed 15 to 20 days after, the post-mortem will show that both the lung which was injected and the lung which was not injected present numerous white nodules, which are generally larger in the inoculated lung. Some of these nodules may coalesce, forming a staphyloid mass. The invasion of the non-inoculated lung apparently is by the bronchi, which in many cases can be made out to be greatly expanded and in some places their wall has given way. The histological examination of the smaller nodules, which are about $\frac{1}{8}$ inch in diameter, shows that the center is composed of masses of small cells and polymorphonuclear leucocytes. Further out, the cells are fewer in number. This corresponds to the area of the degenerating expanded bronchiale. Still further out there is a ring of endothelial cells; many of them are phagocytic, containing smaller white cells, and there are a few large multinucleated giant cells. There are also in this ring a large number of eosinophile cells. At times the cells in the center of the nodules are markedly degenerated, the nodule becoming caseous. Stained with gram a section shows only a small number of monilia and few of the spores take the gram stain. Between the nodules there is no pneumonia in most cases, but there is

some congestion and there is considerable increase of endothelial cells. In the small arteries the intima is greatly thickened. The above histological description is based on the researches carried out on the subject by Douglas, Thompson, and myself. The animal inoculations were performed by Douglas. The histological lesions found in experimental Moniliasis have been also thoroughly studied by Redaelli.

Diagnosis.—The diagnosis is based on the absence of the tubercle bacillus and the constant presence of Monilias in the sputum. It is essential that the sputum should be collected in sterile receptacles after the patient has gargled thoroughly with warm, sterile water and the sputum should be examined immediately. In certain cases the microscopical examination of the sputum shows spore-like, roundish or oval cells often presenting a double contour and occasionally some portions of mycelial threads. In other cases, the microscopical examination is completely negative, and the fungus can be found only by cultural methods. At any rate, it is impossible to make a definite diagnosis of Broncho-moniliasis without a cultural investigation, which should be carried out as follows:

A small amount of sputum is smeared on several tubes of glucose or maltose agar, which should be kept at a temperature of 22 to 25 C. for 2 or 3 days, when, in positive cases, white, rather large, roundish colonies will appear, easily differentiated, as a rule, with a little practice, from the colonies of cocci and other bacteria. To determine the species of *Monilia* present, the strain isolated should be further investigated by inoculating milk, gelatine, serum and the following carbohydrates—glucose, levulose, maltose, galactose, saccharose, inulin and dextrin; and animal inoculations in rabbits should also be performed to see whether the strain isolated is virulent or not, and whether it is capable of producing pulmonary lesions.

It is essential to remember that the mere presence of a monilia fungus in the sputum should never be considered sufficient to establish the diagnosis of Broncho-moniliasis. When a monilia is found in a sputum collected with all due precautions to avoid external contaminations and examined at once, there are 3 possibilities:

1. The monilia, though present in the expectoration, is not virulent and not pathogenic, and lives saprophytically in the bronchi. In such an event the monilia inoculated intravenously into a rabbit will be found to be non-virulent, and when inoculation is intrapulmonary it will produce no lesions in the lungs and no general infection.

2. The monilia, though virulent, may represent only a secondary invader, a secondary infection; in this case the intravenous injection of the fungus will kill the rabbit; the intrapulmonary injection will not cause any localized nodular affection in the lungs. It will induce a general fungus septicemia from which the animal will die.

3. The monilia is the real cause of the broncho-alveolar condition; in such cases the intrapulmonary injection into a rabbit will produce a very characteristic nodular condition of the lungs. When the animal dies spontaneously or is killed, 15 to 21 days after the intrapulmonary injection, both lungs (the one injected and the other in which no injection was made) are found to be studded with a large number of white nodules, containing the fungus. These white nodules are about $\frac{1}{8}$ of an inch in diameter. In the intervening lung tissue there are signs of congestion, but no pneumonia.

The center of the small nodules is composed of masses of small cells, polymorph leucocytes—further out there is a ring of endothelial cells, many of them phagocytic and containing smaller white cells; and there are a few large multi-nucleated giant cells and a large number of eosinophile

cells. The cells in the center of the nodule are markedly degenerated and the nodule is becoming caseous. Sections stained by gram show only a small number of monilias, and few of the spores take the gram stain. Between the nodules there is some congestion but no pneumonia, and there is a considerable increase of endothelial cells. In the small arteries the intima is greatly thickened. The invasion of the lung tissues (in the side not injected) apparently takes place through the bronchi. These can in many cases be made out to be greatly expanded, and in some places their wall has given way.

PRIMARY AND SECONDARY BRONCHO-MONILIASIS.

Primary Broncho-moniliasis should be distinguished from secondary Broncho-moniliasis, which fairly frequently develops in cases of tuberculosis and other chronic conditions, as shown by Chalmers, Macfie and Ingram, myself, and other observers. A diagnosis of primary Broncho-moniliasis should be arrived at by using great caution, because:

First, monilia fungi are frequently very abundant in the air of tropical countries, and very quickly contaminate samples of sputa that by any chance have been exposed to the air, even for a few seconds.

Secondly, these fungi, especially in the Tropics, are not rare in the mouth, in the saliva, and therefore a patient should be made to gargle and rinse his mouth with sterile salt solution before he is asked to cough and expectorate.

Thirdly, even if the fungus be present in the mucus originating from the bronchi, there are apparently certain cases in which the fungus is not pathogenic, being merely a saprophytic organism.

A definite diagnosis of primary Broncho-moniliasis, therefore, should be arrived at with great caution, when the bronchial expectoration collected with every precaution and examined at once contains a monilia,

tubercle bacilli being absent, and the amount of the fungus present decreases rapidly with the gradual improvement of the condition. Pathogenic monilias mostly belong to the following groups: krusei, metalondinensis, Pinoyi, tropicalis. The monilia, as I have already stated, not only must be virulent to the rabbit by intravenous inoculation, but the intrapulmonary injections of it must induce in the rabbit lungs a nodular condition which later becomes caseous.

Mixed Infections.—Cases of apparently true mixed infection, as for instance, Broncho-moniliasis and Broncho-spirochaetosis have been put on record by several observers.

Prognosis.—The prognosis of true primary Broncho-moniliasis must be reserved, as at times no treatment is of any avail, and the patient goes from bad to worse and finally dies.

Treatment.—Potassium iodide is useful in certain cases, but not in all. It is advisable to associate with it the administration of balsamics (principally creosote) and glycestero-phosphates. Monilia vaccines are useful in only a few cases.

TEA-TASTER'S COUGH.

In connection with Broncho-moniliasis, I might say a few words on the so-called “tea-taster’s cough” and “tea-factory cough.” In 1906 a young assistant in one of the big Ceylon firms, a tea-taster, came to consult me about a chronic cough, which he said had not yielded to ordinary treatment, and had been suspected by several medical men to be of tuberculous origin. He emphatically stated, however, that he did not believe it was tuberculosis. “I am merely suffering,” he said, from “tea-taster’s cough,” an expression I had never heard before. The general condition of the patient was good, and the physical examination of the chest revealed only a few coarse rales. The microscopical examination of the sputum was negative for T. B.; instead, I noticed microscopically some mycelial filaments and some yeast-like bodies. I inoculated several glucose-agar tubes, and I grew a monilia fungus which, at the time, I believed to be an endomyces.

How did this patient get infected? Tea-tasters, in order to judge of the quality of the various teas, not only taste infusions, but often fill their hands with the tea-leaves

TABLE SHOWING BIOCHEMICAL CHARACTERS OF COMMON MONILIAS

	Glucose	Levulose	Maltose	Galatose	Saccharose	Lactose	Mannite	Dulcite	Dextrin	Raffinose	Arabinose	Adonite	Inulin	Sorbitol	Starch	Glycerine	Inositol	Salicine	Amygdalin	Isodulcite	Erythritol	Gelatine	Serum	Litmus Milk	Colour of Growth on Glucose Sugar	
nilia Zeylanica Castellani	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	Yellowish	
balcanica Castellani	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	White	
parabalkanica Castellani	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
krusei Castellani	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	“	
parakerusei Castellani	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
pinoyi Castellani	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	“	
nabarroi Castellani	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
metalondinensis Castellani	G	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	“	
alba Castellani	G	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
albicans Robin	G	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	+	+	S	C	“
tropicalis Castellani	G	G	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
metatropicalis Castellani	G	G	G	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	C	“	
rhoi Castellani	G	G	O	G	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	“	
guiller mondi Castellani	G	G	O	O	G	O	O	O	O	G	O	O	O	O	O	O	O	O	O	O	O	O	O	O	“	
macedoniensis Castellani	G	G	O	G	G	O	O	O	O	O	O	O	G	O	O	O	O	O	O	O	O	O	O	C	“	
macedoniensoides Castellani	G	G	O	G	G	O	O	O	O	O	O	O	G	O	O	O	O	O	O	O	O	O	O	O	“	
parachalmersi Castellani	G	G	O	G	G	O	O	O	O	O	O	O	G	O	O	O	O	O	O	O	O	+	O	C	“	

G—Gas. O—Absence of gas or coagulation. C—Presence of clot. +—Positive. S—Slight.

and bury their noses in them, sniffing them up; in this way a certain amount of tea-dust enters the nasal cavities.

Now, if one examines tea-dust, in Ceylon, one finds that it contains fungi of the genus *Monilia* constantly, of the genera *Aspergillus* and *Penicillium* frequently, and of the genus *Oidium* occasionally. A peculiar streptococcus is also very often present. The same organisms are not rarely found in the nasal cavities of tea-tasters, and when bronchial symptoms appear in them, monilia-like fungi are present in the expectoration. It is probable, therefore, that the so-called tea-taster's cough is a Moniliasis, especially as a guinea-pig, in the nostrils of which I insufflated tea-dust regularly, died with symptoms of chronic bronchopneumonia.

What I have said about "tea-taster's cough" applies to a great extent to the so-called tea-factory cough. For many years planters have noted, in Ceylon, that the coolies doing work in tea-factories, where the leaves are dried and there is a large amount of tea-dust floating about, after some months become weak, lose flesh, and often have a cough with muco-purulent expectoration. The planters have found by experience that these coolies must be taken away from the factory and sent to work in the field, and then the symptoms slowly disappear. I have examined some of these coolies, and their expectoration practically always contains fungi of the genus *Monilia*. I have little doubt, therefore, that the so-called "tea-factory cough" is a Bronchomycosis, and probably a Bronchomoniliasis.

BRONCHO-OIDIOSIS.

This is clinically identical to Bronchomoniliasis and, as in the case with Bronchomoniliasis, a primary and a secondary form should be distinguished. The fungi belong to the genus *Oidium* sensu Pinoy and are characterized by abundant mycelium with numerous arthrospores but, in contrast to *Monilia*, free yeast-like budding cells are

absent or rare. They may produce acidity in various sugars and other carbohydrates, but never gas. This genus (sensu Pinoy) contains 4 principal species:

O. lactis Link, 1809.

O. rotundatum Castellani, 1911.

O. aseroides Castellani, 1914.

O. matalense Castellani, 1915.

They may be differentiated as follows:

1. Surface of the culture smooth or only very slightly crinkled, produces acidity in glucose, though not constantly, but in no other carbohydrates. *O. lactis*.

2. Surface with duvet, produces no acidity or only very slight in the usual carbohydrates. *O. matalense*.

3. Surface vermiform, acidity in glucose, levulose, galactose, maltose and lactose. *O. rotundatum*.

4. Colonies with peculiar radiating appearance. *O. asteroides*.

The reader interested in mycology may find further details regarding these fungi in Castellani and Chalmers' "Manual of Tropical Medicine," 3rd edition, page 1093.

BRONCHO-CRYPTOCOCCOSIS.

Symptoms identical with those found in Bronchomoniliasis, but the causative fungi found belong to the genus *Cryptococcus*. These fungi consist of numerous yeast-like, budding cells with no mycelium; cultures never present asci,—this is the only characteristic that differentiates them from true *Saccharomyces*. There are a primary and a secondary type of Broncho-cryptococcosis. The treatment is the same as for Bronchomoniliasis.

BRONCHO-ENDOMYCOSIS.

This is caused by fungi morphologically identical with *Monilia*, but old cultures show presence of asci. It is a rare condition. The symptoms and the treatment are the same as for Bronchomoniliasis.

BRONCHO-SACCHAROMYCETOSIS.

This condition is caused by fungi of the genus *Saccharomyces* and other genera of the family of *Saccharomycetaceae*. These fungi are characterized from a practical point of view by the following features:

1. Reproduction of budding.
2. Absence of mycelium.
3. Presence of asci in old cultures.
4. Gas fermentations of one or more sugars.

Symptomatology and treatment as in Broncho-moniliasis.

BRONCHO-WILLIASIS.

This is a very rare type of Broncho-mycosis. The fungi found belong to the genus *Willia*. They are characterized by the peculiarly shaped ascospores, bowler-hat-like, etc. I have had one such case. The patient, a retired planter, got well on potassium iodide. The symptoms were the same as those found in chronic Broncho-moniliasis.

BRONCHO-HEMISPOROSIS.

This condition, first described in 1910 by me, in Ceylon, is due to fungi of the genus *Hemispora* Vuillemin, which are characterized by the conidiophores terminating in an ampulliform structure with formation of *Protoconidia* and *Denuteroconidia*. The species which have so far been isolated in urose are two, one identical to *H. rugosa* Castellani, previously found in the Tropics, and the other probably a new species or at least variety: *Hemispora pararugosa* Castellani, Douglas and Thompson. The principal characters of these two fungi are, briefly, the following:

Hemispora rugosa Castellani, 1910 (Syn. *Monilia rugosa* Castellani, 1910) is a hyphomycete with the botanical characters of the genus *Hemispora*; is gram-positive but not acid-fast; the growth on glucose agar is abundant with a crinkled surface, occasionally cerebriform, and amber-yellow or brownish color. No gas is produced in any

sugar, but a little acidity may be present in glucose, levulose, saccharose, and maltose. The fungus usually has no action on milk, but occasionally it induces a slight degree of peptonization with a small coagulum at the bottom of the tube. Gelatine is very slowly liquefied. This fungus was first found by me in cases of bronchitis and tonsillitis, in Ceylon, and latter by Pijper in certain cases of thrush. I at first placed the fungus temporarily in the genus *Monilia*, later removing it, at the suggestion of Professor Pinoy, to the genus *Hemispora*.

Hemispora pararugosa Castellani, Douglas and Thompson, 1921, is morphologically and culturally very similar to *H. rugosa*. It is gram-positive, but not acid-fast. It does not produce gas or acid in the usual sugars and carbohydrates, but at times produces acidity in starch. It does not liquify gelatine, and there is no production of acid or clot in milk.

Symptomatology.—A mild and a severe type of the affection can be distinguished. In the mild type the general condition of the patient is good, there is no fever, and he simply complains of cough. The expectoration is muco-purulent, and does not contain blood. The physical examination of the chest is negative, or only reveals a few coarse rales.

The severe type closely resembles Phthisis; the patient becomes emaciated, there is hectic fever, and the expectoration may be bloody. The physical examination may reveal patches of dullness, fine crepitation and pleural rubbing. It is interesting to note that the affection occasionally develops after a tonsillitis caused by the same fungi, and characterized by the presence of yellowish or greyish patches.

Treatment.—Potassium iodide in large doses generally answers well.

BRONCHO-ANAEROMYCOSIS.

This mycosis has been investigated by Douglas, Thompson and myself. We have given, temporarily, the generic name

Anaeromyces to a group of bacillary fungi of the order Micro-siphonales Vuillemin, 1912, which are found in certain cases of bronchitis, and which show transition and intermediate characters between the genus *Corynebacterium* Lehmann and Neumann, 1896, the genus *Mycobacterium* Lehmann and Neumann, 1896, and the genus *Nocardia* Toni and Trevisan, 1889 (cohnistrep-tothrix Pinoy 1911, pro-parte), of the family Nocardiaceae Castellani and Chalmers 1918 (*Actinomycetes* Lachner-Sandoval, *Trichomycetes* Petrusek).

The organisms of this group, *Anaeromyces*, are very closely related to the genus *Corynebacterium* Lehmann and Neumann (*Diphtheria* and *diphtheroid* bacilli) and the genus *Nocardia* Toni and Trevisan (*Actinomyces* Harz, *Discomycetes* Rivolta, *Streptothrix* Rossi-Doria, *Oospora* Sauvageau and Radias, *Cohnistrepthrix* Pinoy, pro-parte), but, in contrast to the former, branching is much more marked, and they are strictly anaerobic; and, in contrast to the latter, the mycelium is very much less developed, the growth is moist and not dry and crinkled, and they never give rise to actinomic granules in the lesions. They are gram-positive, non-motile, and not acid-fast. These germs or similar ones, were found in cases of bronchitis in 1904 by Chalmers and myself, and were referred to in a short paper read at the time as "*Bronchial anaerobic Diphtheroid Bacilli*," but the observation attracted very little notice. They are also somewhat similar to *Bacillus Vitulorum* Flugge.

Anaeromyces bronchitica Castellani, Douglas and Thompson — Morphological and Staining Characteristics.—The organism is bacillus-like and resembles in its shape a diphtheroid bacillus, but branching is much more marked. It is gram-positive and not acid-fast. It measures 3 to 5 microns in length, and 0.3 microns in breadth.

Motility.—The organism is non-motile.

Relation to Oxygen.—The organism is an obligate anaerobe.

Cultural characters.—Provided a strictly anaerobic technic be used, the germ grows well in many of the usual laboratory media. The growth on glucose agar and other media is not very characteristic. The fungus does not seem to grow in gelatine at 22 degrees C.

Biochemical reactions.—There is no formation of acidity or gas in any carbohydrate we have experimented with, viz., glucose, levulose, maltose, galactose, saccharose, lactose, and inulin.

Animal experiments.—The action of this organism in the lower animal has not been fully investigated, but it does not seem to be pathogenic to guinea pigs, rabbits or mice.

Pathological Conditions in Man in which Anaeromyces bronchitica has been found.—The fungus has been isolated from a fairly large number of cases of bronchitis which may be classified into two groups:

The haemorrhagic type.

The muco-purulent type.

Cases of haemorrhagic type closely resemble pulmonary tuberculosis; there may be intermittent or remittent fever; the patient may become anaemic and lose flesh; the expectoration contains blood and is at times of very characteristic bright brick-red color. The physical examination of the chest may be at times almost completely negative; at other times it may show signs, such as patches of dullness and crepitations, pointing to tuberculosis.

The symptoms noted in muco-purulent type do not differ from those of an ordinary case of subacute or chronic bronchitis. The sputum is muco-purulent, or at times purulent; there may be slight fever, but the general condition of the patient is not affected for a long time. In some cases the muco-purulent type, after a variable period of time, turns into the haemorrhagic type.

Geographical distribution.—The organism has been found in cases which con-

tracted the disease in Ceylon, in the Federated Malay States, Serbia, Italy, France, and England.

Mixed Infections.—The organism has been grown occasionally from bronchial cases in which *Monilia* and other fungi, and also the tubercle bacillus, were present.

Pathogenicity of Anaeromyces.—The animal experiments carried out by Douglas do not seem to show that the germ causes any very serious lesion in guinea-pigs, rabbits, or mice, and this is, of course, an argument against the organism's being pathogenic. On the other hand, the following facts are in favor of its pathogenicity to man: (1) The anaeromyces present in the sputum rapidly decrease in amount, and finally disappear with the gradual improvement of the bronchial condition; and (2) in a number of cases the haemorrhagic expectorations very rapidly ceases and all the symptoms quickly disappear, when an anaeromyces vaccine is used without any other treatment. It is therefore probable that anaeromyces has at least some part in the aetiology of certain cases of hemorrhagic bronchitis.

BRONCHIAL-ASPERGILLIOSIS.

This affection, known also as broncho-aspergillomycosis, pseudo-tuberculosis, aspergillus pneumomycosis, and in France *maladie des gaveurs des pigeons* (pigeon-breeders)), is caused by fungi of the genus *Aspergillus* Micheli and *Sterigmatocystis* Cramer. These fungi are easily recognized by their very characteristic fructifications: the conidiophore terminates into an ovoid or roundish formation, from which take origin numerous elongated claviform elements, each of which supports a chain of roundish conidia. These fungi are generally saprophytes, but occasionally become true parasites. They grow quite easily in both acid and alkaline media. It is interesting to note that iron and manganese have a favorable influence on their growth and sporulation. When growing parasitically

in the tissues of man and animals, they often lose some of their characters and the typical fructifications are often absent, only mycelial segments and yeast-like cells being seen.

The classification of *Aspergillus* is difficult. In practice the principal types may be different as follows:

1.—Conidia, of very large size (9 to 15 microns in diameter), yellow, or reddish-yellow, or gold-brown. *A. herbarorum* Wiggers.

2.—Similar to *herbarorum* in general characteristics, yellow or yellow-green, but conidia somewhat smaller though still large (7 to 8 microns). *A. repens* De Bary.

3.—Similar to above two, as regards color and being yellow or greenish-yellow, but spores smaller (5 to 7 microns in diameter) and with a granular surface. *A. flavus* De Bary.

4.—On solid media, brownish-black if the medium is alkaline or neutral, greenish if the medium is acid; conidia small (2 to 3 microns) and smooth. *A. fumigatus* Fresenius 1775.

Symptomatology.—There are signs of muco-purulent bronchitis. In severe cases haemoptysis may occur and there may be serotine fever. The disease often terminates fatally, and at the post-mortem numerous mycotic nodules may be found in the lungs and occasionally in the liver and kidneys and other organs. Care should be taken to distinguish secondary Aspergilliosis from primary Aspergillois. Secondary Aspergilliosis occasionally develops into tuberculosis, and not very rarely in gangrene of the lungs.

Diagnosis.—This is based on the mycological investigation of the sputum. It is important to note that, as a rule, in the sputum only conidia; elements and mycelial elements are seen microscopically.

Treatment.—This is difficult. Potassium iodide is useful in incipient cases, and a change of climate and occupation should be recommended.

BRONCHO-PENICILLIOSIS.

The condition is clinically identical to Broncho-aspergilliosis, but the causative fungi belong to the genus *Penicillium* Link. Fungi of this genus are characterized by their fructifications, the whole fruit-bearing hypha with its sterigmata and conidia resembling a hair-pencil (*Penicillium*-Hair pencil). The species most frequently found in man is *P. crustaceum* Linnacus (synonyms *P. glaucum* Linnacus, *Monilia digitata* Persoon). It is often found living saprophytically on bread, cheese, and fruits. The conidia are spherical, smooth, of a maximum diameter of 4 microns.

In Macedonia, during the World War, a Serbian soldier was sent to the hospital to which I was attached, with the diagnosis of pulmonary tuberculosis. He had been wasting for two months, and had serotine fever. Expectoration muco-purulent, at times bloody. Repeated examination for T. B. negative. A few mycelial threads present. A fungus was grown with the characters of a *Penicillium*, probably *P. crustaceum*. Potassium iodide in full doses acted well.

BRONCHO-MUCORMYCOSIS.

This term is used to designate bronchial and bronchial-alveolar affections associated with fungi of the genus *mucor* Micheli, 1729, and the following genera:

Lichtheina Vuillemin, 1904.

Rhizomucor Lucet and Constantin.

Rhizopus, Ehrenberg.

These genera belong to the family *Mucoraceae*, the members of which are characterized principally by the following features: aerial hyphae are present (gomidiophores) each of which supports on its distal extremity a pear-shaped globular or claviform formation, the sporangium or

gonidiangium which is at first separated from the gonidiophore by a septum. The septum later protrudes into the lower part of the sporangium to form a variously-shaped structure called columella.

Inside the sporangium, gonidia (Endospores) develop by free cell formation. Part of the sporangial protoplasm not used in the formation of the endospores becomes transformed into a peculiar mucilaginous substance, which, at a later period, becoming swollen by absorption of water causes the bursting of the sporangium. Each endospore or gonidium which has become free in this way gives rise to a mycelial tube by germination. The mycelial tubes ramify, and an abundant mycelium is produced.

In some species a form of partial sexual reproduction takes place by a process of zygosporosis, or conjugation of two gametes which morphologically are not of different shape or structure,—that is to say, they are not sexually differentiated. It must be noted that many species, when growing in unfavorable media, reproduce only by conidia. They require plenty of oxygen, and therefore the media tubes must never be closed with rubber caps; otherwise they lose their characteristics and grow monilia-like or yeast-like. The family *Mucoraceae* may, from a practical point of view, be classified as follows:

1.—Mycelium ramified, no rhizoids (root-like hairs by which the plant is attached to the medium). *Mucor*, Micheli, 1729.

2.—Mycelium, non-ramified, with or without rhizoids, sporangium terminates in a special formation, encircling the base of the columella. *Lichtheima*, Vuillemin, 1904.

3.—Mycelium provided with rhizoids columella ovoid. *Rhizomucor*, Lucet, Constantin, 1900.

4.—Mycelium provided with rhizoids columella, hemispheric, mushroom-like. *Rhizopus* Ehrenberg, 1820.

For further particulars on the botanical classification of these fungi, the readers

may consult Castellani and Chalmers' "Manual of Tropical Medicine," 3rd edition, pages 972-977.

Illustrative case.—During the World War, while I was in the Balkans, in 1917, a Serbian soldier was sent to be with the diagnosis of pulmonary tuberculosis. He was losing flesh rapidly and felt very weak. Slight fever at night, a fair amount of expectoration, generally muco-purulent. The physical examination of the chest revealed nothing except a few coarse rales. Microscopical examination of the sputum for T. B. constantly negative; instead, a few segments of mycelium were noticed on several occasions, glucose-agar tubes and other media were inoculated, and a fungus was isolated which at first showed the characters of a monilia; in sub-cultures, however, the characteristic features of a mucor appeared with presence of the globular sporangia (columella) 5 microns in diameter of yellowish color, spores elliptical smooth. In what way did this man get infected? He was in charge of horses and often had to remove the horse dung, and as is well known horse dung almost always contains mucor.

BRONCHO-ACREMONIELLALYSIS.

In a case at first considered to be a Broncho-aspergillosis Perin isolated a fungus which was investigated by Pollacci. In glucose-agar it produces a growth which is at first whitish, but later soon becomes black. The microscopical examination of the cultures shows abundant septate mycelium, the hyphae being 3.5-4 microns in breadth. Each conidiospore bears a terminal round spore 7.7 to 9.7 u. in diameter, of a dark-brown color. Pollacci considers the fungus to belong to the genus *Acremoniella* and has called it *Acremoniella* Perini. Broncho-acremoniellasis clinically is identical with Broncho-aspergillosis.

BRONCHO-CLADOSPORIOSIS.

From a case of chronic bronchitis with occasionally haemorrhagic sputum I have

isolated a fungus very similar to *Chlorosporium* *Mansoni* Castellani which is the cause of *Tinea nigra*. Potassium iodide answered well.

BRONCHO-ACOLADIOSIS.

From two cases of chronic haemorrhagic bronchitis I have isolated a fungus which does not seem to differ in any important point from *Acladium* *Castellani* Pinoy, which is the cause of a peculiar ulcerative condition of the skin. The two cases got well on potassium iodide.

BRONCHO-SPOROTHRICOSIS.

In cases of dermal sporothricosis the fungus may occasionally attack the bronchi and the pulmonary tissues. But there is also, though it is rare, a primary Broncho-sporothricosis. The patient has the symptoms of severe bronchitis or broncho-pneumonia, with muco-purulent expectoration, occasionally tinged with blood. The diagnosis is based on the microscopical and cultural examination of the sputum. The microscopical examination will show presence of yeast-like bodies in certain cases, in others it will be completely negative. The sputum should be inoculated into several tubes of maltose-agar, and left at a temperature of the room for several days. In positive cases whitish colonies generally appear, which soon coalesce, forming a whitish rerebiform mass and this later on becomes black or brownish. For the determination of species, hanging-drop cultures must be prepared, and also cultures on various media, etc. The classification is based principally on the size and shape of the conidia, and may be found in the chapters on fungi in Castellani and Chalmers' "Manual of Tropical Medicine."

The prognosis is quite favorable, provided a correct diagnosis is made at an early stages. Potassium iodide in large doses is a specific.

BRONCHO-MYCOSSES DUE TO UNCLASSIFIED FUNGI.

In Ceylon and the Balkans, and recently in England, I have come across cases of

haemorrhagic bronchitis from which I isolated some peculiar fungi that have not yet been classified. Potassium iodide answered well in most of them.

CONCLUSION.

In conclusion, it would seem to me that the subject of haemorrhagic bronchitis of protozoal, helmenthic and fungal origin deserves to attract more attention than has been the case hitherto. It should be remembered that the subject is of practical importance; all these conditions I have mentioned are generally mistaken for tuberculosis, but, while pulmonary tuberculosis in the haemorrhagic stage is often incurable, most of the conditions I have described, provided the correct diagnosis is made, in time, are amenable to treatment.

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Kline & Blankenhorn, twenty-four cases. Observed at Mount Sinai Hospital, Cleveland, sixteen cases.

DISCUSSION.

Dr. F. M. Johns: Mr. Chairman and Gentlemen: Dr. Castellani has given me the honor of opening the discussion but it is absolutely impossible for the student to discuss the work of the master and I prefer not to enter into that detail at all. Suffice it to say that it is not sufficient merely to diagnose our patients, for the present at least, as merely having an inflammatory condition of the lungs and bronchial tubes. These findings demand an explanation and it is just as important, in my opinion, at present, to determine exactly the cause of inflammatory condition of the lungs as it is to diagnose the particular type of organism in meningitis, urethritis and all other acute, infectious diseases. The treatment depends upon the type of infection in many instances—and the prognosis to a still greater extent, and I am sure that the time will soon come where none of us will be satisfied to examine the sputum and say, "No tubercle bacilli present." (Applause.)

Dr. Urban Maes (New Orleans): Since Dr. Castellani has been good enough to mention my name as one of those investigating the condition, I want to say that I think it will be only a matter of a very short time when this condition will be universally recognized as "Castellani's disease." I had the good fortune to see

a patient not long ago, through the courtesy of Dr. Eshleman, who had had a cough with bloody expectoration for twenty odd years. The radiologist had taken a picture and concluded that she had an empyema. On running down the history we found a history of a chronic bronchitis and suddenly an acute illness. The patient was in desperate condition and I at first declined to operate but was persuaded by her doctor husband that we had better take a chance. I took a smear of some of the pus. Through the investigation of Dr. Lanford, the pathologist at the infirmary, we found this pus swarming with spirochaetes, and strange to say after drainage, in a few days the patient reacted slightly and was in condition to take a few doses of salvarsan. She has now gotten well up to a certain point when some of the supplementary treatment mentioned by Dr. Castellani will have to be given.

I think that there are several very important things that will be brought out. The pulmonary hemorrhage must be accounted for and cannot always be accounted for by pulmonary tuberculosis. I ran down the literature of this subject that was available at the library of the Orleans Parish Medical Society and I could trace sixty-four reported cases up to that time, mine being the sixty-fifth. Sixteen of these came from the work of some American investigators, Kline, Berger and Blankenhorn from Cleveland. The lesson to be drawn from this is that out of sixty-five reported cases, sixteen came from the work of two men in one institution, which I think rather points out that we have been satisfied in the past with negative sputum examinations for the tubercular bacillus and not running the matter down far enough so as to really identify the spirochaete.

I think we are indebted to Dr. Castellani for calling our attention to the disease. We are indebted to Kline, Berger and Blankenhorn of Cleveland for showing us the comparative prevalence of bronchial spirochetosis, and that we have been overlooking the minute sputum examinations and the *repeated sputum examinations* that are necessary to identify a disease which, when it is identified, is curable in most instances and in the past has been regarded as a fatal and hopeless malady. (Applause.)

Dr. J. E. Knighton (Shreveport, La.): An interesting feature is the fact that the organisms are found most numerous in the hemorrhagic portions of the sputum. As is well known, this is not true in cases of hemorrhage from tubercular lesions. The tubercular bacilli are rarely found in the blood from a hemorrhage of a tuberculous patient.

The question that suggests itself to me, is whether or not the infection by this organism is local or a blood stream infection. I would like to ask Dr. Castellani to answer this question in his closing remarks.

Dr. Wallace J. Durel (New Orleans): Dr. Maes' report of a case of spirochaetal empyema prompts me to call attention to a case which I hope Dr. Castellani will elucidate from his viewpoint of blastomycosis of different areas of the skin including the large patches on his nose, pus, an empyema accumulation which contained numerous blastomyces. This case was treated for the condition generally and in addition to that his chest was aspirated and an equal amount of air injected back into the chest so as to empty the pleural cavity without causing any discomfort to the patient. This, by the way, is a subject which I may have occasion to bring up before the Society later as a general treatment of empyema, but in this case, this man got along so well that finally he got out of touch with the doctors in the clinic and we haven't seen him for some time.

The point is this, that when you get an empyema it is very important that you make a smear and a culture of your pus because it may lead you to find a general condition for which a patient must be treated before you can cure that case.

Dr. C. L. Eshleman (New Orleans): Dr. Castellani mentioned four (4) types of pulmonary streptothricosis; mucohaemorrhagic, bronchitic, putrid and asthmatic. My case, referred to by Dr. Maes and operated by him, was a lung abscess. She had the physical signs as well as the history of a lung abscess, namely, septic fever and sweats and cough with purulent sputum in enormous amounts with much blood; also a high leucocyte count and radiological evidence of an abscess. It was emptying into a bronchus and had also broken into the pleural cavity giving the suggestion of an empyema. I suppose the putrid type referred to by Dr. Castellani fits this case, but I think we should recognize the fact that this condition occurs not infrequently as a lung abscess, and in all lung abscesses the sputum should be examined for the streptothrix. Ordinary pyogenic abscesses are simply drained, but when the streptothrix is present the treatment should be salvarsan injections in addition to drainage.

In my case the lung involvement was very extensive, and the drainage tube was introduced about six inches into the lung. This was followed by improvement but her real improvement

seemed to begin with the salvarsan injections which followed.

Dr. Castellani (In closing): The principal points which have been brought forward in the discussions are the following: Importance of the examination of the sputum not only for the tubercle bacillus but for other organisms which may be causative of bronchitis and broncho-pneumonia and other conditions of the lung; second, another point has been brought forward of great importance in my opinion, and that is that X-ray examination in cases of broncho-spirochaetosis gives very little or no help; thirdly, the suggestion has been made that broncho-spirochaetosis may be a blood infection. I say again that the condition has not been as yet completely investigated. My impression is that there are several types of broncho-spirochaetosis. While there is a type we have little doubt takes origin at first from the upper bronchi and probably from the pharynx, possibly from the mouth, there may be another type which may be blood infection. After all, you must remember the case of syphilis—you have a syphilitic condition of the lung which is clinically identical with broncho-spirochaetosis, and in that condition the infection is a blood infection.

I might mention that I did not quote all the various types of broncho-spirochaetosis which have been described. There is a type to which I should like to call attention, and that is a broncho-spirochaetosis which develops after an acute condition which can hardly be differentiated from a ordinary cold. In the mucus of the pharynx and sometimes in the mucus of the nose, you will find a very large number of spirochaetes but this spirochaeta is much smaller than spirochaeta bronchialis and spirochaeta buccalis. It is a very, very minute spirochaeta, so minute that I call it "spirochaeta minuta." (Applause.)

INSANITY RESPONSIBILITY.*

J. A. O'HARA, M. D.,

NEW ORLEANS.

Philanthropic men and women, and their government, representing all parts of the world, are munificently and liberally donating their money, while scientific men are pushing forward, using all their energy, brain and brawn, during daylight, and many hours of the darkness, seeking methods and means where the human life

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may be made comfortable and bettered, by controlling or conquering the diseases that may prolong our lives, and make us a better race.

Money, energy, time and other methods are being brought into play, sacrifices of all kinds are used, to try to reach the goal, in many instances with colossal and profound success and reward, and in many instances opening up avenues for future encouragement; but, unfortunately, the very roots that should be upturned and destroyed, are being sadly neglected, and are given but a passing glance.

Humanity is a splendid subject for the ravages of disease, that are both contagious and infectious, that leave behind them long trials of pathology, but, fortunately, they are combatable, suppressable, and can be crushed out, as has so often been demonstrated, by proper application of sanitation and hygiene methods energetically applied. This has been clearly proven when our communities are visited by epidemic or endemic diseases; therefore, from this angle the present and future human race, at least, is protected and safeguarded.

But insanity, and its sequel, diseases which mankind acquires, and acquires from known and unknown sources, inherited and handed down to him through generations, characterized by its chronicity, viciousness and seriousness and sorrows, by its serious pathology, and finally the written and unwritten crimes that insanity is responsible for; crimes that have dethroned governments, torn families asunder, not forgetting the stupendous cost or expense to the community and government, all of this daily occurring amongst us and practically nothing being done to suppress, control or protect us. I say nothing, because, as a mere handful of men, fighting courageously against desperate odds, handicapped on one side by man himself, and on the other by the powers of the government, and nothing but the stinging criticism of the press.

Have you ever heard of an individual donating a legacy to be used for building any institution for the treatment, care or prevention of insanity, or have you ever heard of a member of any administration advocating a bill that would, in any manner, help these unfortunates? When such a thing is approached, they seem lost in a maze of wilderness.

Do we, or do they, mean, by their indifference, to infer or insinuate, that the future race of man does not wholly depend upon the physical and mental make-up of the present generation? What is it that has occurred in the past, that has not been the result of evolution or creation from the "workshop" of the "brain of man"? Therefore, disease, infectious or contagious, can be cured, or controlled, and upon neither does the future depend for its development.

Past history and investigation shows that feeble-mindedness is transmitted most by inheritance, by faulty germ plasm to the child, from one or both parents; but it is also proven that a large percentage is also the result of injury, etc., to the child in utero, or from continued pressure, etc., during birth, for birth injuries are more frequent than at first suspected, infectious diseases are known to cause arrested mental development in the early months of child life, causing mental defectiveness as actual as that of the inherited forms. A splendid paper read at the Southern Medical Convention, giving results of one hundred spinal punctures made in the first few weeks of the new born, nine positive blood findings in the C. S. F. out of the hundred cases showing nine cases of cerebral hemorrhage, the existence of which would not have been observed until later in life.

Dr. Fernald's late survey of the State of Massachusetts, amongst its 3,500,000 inhabitants, there were found 60,000 people who were intellectually subnormal. An estimate that of the 24,000,000 persons attending the schools in this country, that about 4 per cent., or, in round figures, 960,-

000 will enter some hospital for mental diseases at some period of their lives, if the present rate for the first admissions is maintained.

Alfred Adler, psycho-analyst, of Vienna, in speaking of neuroses, states that the central influence in neuroses "is the feeling of inferiority," and the origin of this attitude goes back to the early period of life, between three and five years of age, in which the developing "ego" first forms its scheme of the category, into which it will fit, and, by this early influence, this substrata of life is so firm, and lasting, that the individual derives but little benefit of his experience in his late life.

There is proof beyond dispute that the insanities of the races, with their deterioration, frightful and unerring acts of behaviorism, and its great stages of chronicity, must not be overlooked, but rigorously attacked in the early mental life, unless we are satisfied to go on, and on, with the conflicts that are daily occurring between insanity and law, and allowing hundreds of innocent victims to be murdered or ravaged by the group of existing feeble-minded and epileptics, that apparently go to make up the greater class of criminals of the anti-social type, from which society should be protected; but I am sorry to add, that from time immemorial, it has been allowed to exist without any concrete action being taken to obstruct it.

If those that should assist could be made to open their eyes to see, and their ears to hear, and their minds properly to function, institutions could and would be established in Louisiana, where with treatment and proper guidance, these subjects could be at an early age gotten under control, for these cases should have, not only equal rights, but better rights of encouragement and education than the normal-minded child; they should be schooled and remain at home under proper instruction of their parents, who are always glad to try to help. For

it is during his early school life that the child makes its first conscious and important adjustment to the human part of his environment, and many a direlict mind, many a voice from the wilderness, could be made to function, if not as a whole, at least partially, and be able to help and assist the body to maintain and guide itself.

Modern industry of the day is now using automatic machinery, which is now being operated by repeated and monotonous movements, which is now being operated by unskilled labor, and the uneducated classes, and it is here that many of the sub-normal cases could be advantageously employed, as it has been demonstrated again and again that the early trained sub-normal or mentally retarded are successful contenders to the uneducated classes.

As to the early training of the sub-normal, following the suggestion of Dr. Fernal and others, the most practical methods are:

Identification, by repeated mental examinations of the child of three or more years retarded;

Registration at a central bureau for ascertaining the size of the problem.

Education by special classes, and by Child Guidance Clinics.

Training—Domestic duties and simple trades.

Supervision by trained workers at home.

Segregation, "a fork in the road," which seems to divide the question, some justly claiming that a sterilized defective would be less liable, for, if left unprotected, their lack of control would still lead them on to crimes of arson, assault and murder and petty larceny, and drug addicts, vagrants or destitution.

A defective, sterilized woman, by this fact, and her incapacity of pregnancy, would be more prone to life of illicit intercourse, and life of prostitution, and

therefore an incubator for the propagation of venereal diseases, and vice.

Following in the wake of these suggestions, it becomes apparent that the control of insanity is by the creation of psychopathic clinics for child guidance, or child guidance clinics, in every town and hamlet in the State, under the control of the National Commission of Mental Hygiene, where those interested, the parents and guardians, could receive proper instruction in mental hygiene, with records and questions for the parents as to the behavior, etc., at home of the child, and at the same time to receive suggestions from the parents themselves; volunteers from the medical profession could be used as instructors in the clinic, and great assistance could be gotten from the movies and from the radio for broadcasting into every home in this State, and by this means gaining access to the very heart of the community.

When we look around us at the situation that confronts Louisiana, we find the East Louisiana Hospital at Jackson, and the Central Hospital at Pineville, and the Hospital for Mental Diseases at New Orleans, these three institutions all worthy of their names, under the control and supervision of the very best physicians and technicians of the country, but working under the strain of economy. Economy, we know, must and should be the watchword of all branches of an administration, but an economy that calls for "biting of the penny," or the bending of the dollar, is false economy that produces no dividend. Economy and protection of the community's health are both positively incompatible. The institutions of this State, from pit to dome, are crowded with insane; thousands are being housed in violation of the most positive rules and order of the American Hospital Association, and still, with this forced economy on the one hand, and superpopulation on the other, our superintendents are meeting the situation bravely,

doing constructive work beyond our comprehension.

The time is now ripe, so let us medical men "heave to" and see those who can overthrow this unfortunate condition, see our representatives in the Legislatures, and ask them to assist the most deserving and righteous class of our unfortunate citizens, our insane, by establishing sufficient institutions for the care and treatment of the unfortunate insane in this State. As the control of insanity is more important than road bonds are, the bonded indebtedness of the State should be increased for this splendid purpose; the future generation will pick the golden apple and enjoy the benefits, and it is for this reason alone they should help to bear the burden.

THE ETIOLOGY OF PEPTIC ULCER.*

E. GARLAND WALLS, B. S.,

NEW ORLEANS.

Ever since the beginning of medical science, the great aim of the profession has been to determine the cause of disease. The etiology of many diseases has been very completely worked out, but there are still some of which we know relatively little. Of this latter group, an outstanding member is the so-called peptic ulcer. Just as the ancient physician-philosophers pondered over the question of the cause of disease so do we still wonder and speculate on the cause or causes of peptic ulcer. The purpose of this paper, therefore, is not to state *the* cause of this condition but to discuss in an elementary fashion and without the burden of too much statistical data, factors which are believed to play a part in the production of ulcer.

The importance of determining the cause of peptic ulcer is readily appreciated when one considers that this may be a preventable disease or a specific drug or serum may be discovered to cure it if we know

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the cause. It is to be remembered that we are not speaking of the ulcer of syphilitic origin or the tuberculous ulcer but the "simple" gastric or duodenal ulcer, which varies from a punched-out, localized destruction of mucous membrane to the ulcer surrounded by undermined edges with proliferation of connective tissue, thickened walls, and a base consisting largely of a thin layer of muscularis or somewhat thickened serosa depending on its chronicity. Smithies demonstrated that the time element has little or nothing to do with the type of ulcer, that is, a chronic ulcer may be produced in a few weeks and an acute ulcer may have existed for a much longer time.

The great British physiologist, Bayliss, in the "Introduction to General Physiology" (1919), says that "our task is to refer, as far as we can, all phenomena of life to the laws of physics and chemistry," and, truly, this is a good general rule to follow, that is to say, try to stick to the facts that are based on substantial evidence and avoid as much as possible the theories with little or no foundation. We will start, therefore, with a few facts as to the location and incidence of peptic ulcer.

Peptic ulcer occurs in the duodenum in about ten cases out of eleven, or about 91% of cases, and the remaining 9% occur in the stomach. This leaves out of consideration the jejunal ulcer which has come to be such a rarity with the advent of improved technique of gastroenterostomy and routine attention to foci of infection that the percentage is almost negligible. However, jejunal ulcers do occur sometimes after gastroenterostomy near the opening into the stomach. Duodenal ulcers occur most frequently in the "cap" or first portion, about 1.7 cm. from the pylorus, usually on the anterior surface, and closer to the upper than the lower border (Judd). It is rare to find ulcers in the lower portion of the duodenum. Gastric ulcers are usually found on the

lesser curvature and on the posterior aspect of the stomach. The vessels supplying these parts are end-vessels which may invite thrombosis and interfere with ordinary healing processes, there being little collateral circulation. The occurrence of multiple ulcers is common and sometimes both stomach and duodenum are involved. Sippy says that ulcer must occur in the "neutralizing zone."

The incidence of this disease is not of great importance but must be given for reasons that will be obvious below.

Sex statistics vary so greatly that one cannot put much faith in them. Post mortem statistics show a greater incidence in females while surgeons show an enormous preponderance of males. It is generally taught that ulcer is more common in women and especially those of nervous temperament.

The age at which ulcers are prone to occur is of greater importance. It is rarely a disease of infancy or childhood but more common after the twenty-fifth year. It occurs in females younger than in males, as a rule. In spite of what has been said, it should always be remembered that no age is exempt from the possibility of ulcer formation.

Geographic distribution and sociological conditions bear a relationship to each other, so they will be mentioned together. Few statistics are available but it is generally believed that the people that enjoy the refinements and worries of civilized life are more likely to have ulcer than are the simple, primitive people. This belief is probably not due so much to a smaller incidence in these people as to the failure to diagnose the condition. Europeans are more prone to have peptic ulcer than are Canadians and residents of the United States. (C. P. Howard.)

With these more or less uninteresting remarks as to incidence disposed of, we will proceed to discuss the various theories

of peptic ulcer formation and weigh their merits.

First to be considered, is a theory that is rather generally accepted now and, I believe, in the near future will be on such a firm foundation that it will no longer be a theory but a recognized fact; this theory is that peptic ulcer is due to infection. Rosenow even goes so far as to say that ulcer is due to a specific streptococcus that has a predilection for the gastric or duodenal mucous membranes. He bases his belief on the actual production of ulcer in dogs by the intravenous injection of micro-organisms cultured from foci of infection of patients suffering with peptic ulcer. The same strain of streptococcus was recovered from the ulcer so produced. This seemingly proves that ulcer can occur in this way but it has been noted that ulcers produced under these experimental conditions tend to heal more readily than the peptic ulcer of man, so there must be factors other than infection to account for slow healing. In further evidence of infection as a cause for peptic ulcer formation, we know of the very common occurrence of foci of infection in teeth, tonsils, appendix, gall bladder, sinuses, etc., in peptic ulcer patients. This occurs so frequently, especially appendicitis and cholecystitis, that Deaver and others do a routine appendectomy whenever surgical measures are used on a case of peptic ulcer, and any evidence of gall bladder disease warrants a cholecystectomy. Improvement after these measures is very common. Another fact that strikes me is that the incidence of jejunal ulcer after gastroenterostomy has been reduced almost to zero since the importance of removing foci infection has been brought out and they are removed routinely.

We have been referring to an infection of the gastric or duodenal mucous membrane by way of the blood stream. Other authorities, notably Ramond of Paris, believe that infection may take place from micro-organism injected through the diges-

tive tract. They are supposed to lodge in the tubules or crypts of the mucous membrane and in the presence of a lowered resistance set up an infection. Closely allied with this idea is the belief that there is a relationship between peptic ulcer and chronic gastritis. This is certainly a possibility, for in this condition there may be a defective emptying and there is a partially devitalized mucous membrane with a deficient supply of mucus. However, against this view is the fact that there is usually a low free acidity in prolonged cases of chronic gastritis as contrasted with hyperacidity in ulcer.

Hurst (England) is of the opinion that some ulcers may be due to the action of blood borne toxins from foci of infection. He believes, however, that more cases are due to actual infection with micro-organisms giving rise to inflammation of the minute submucous lymphoid follicles which ultimately break down, open into the lumen of the stomach or duodenum, and form the base for a definite ulcer.

Next in importance to the theory of an infectious origin of peptic ulcer comes the idea that vascular blocking may be the cause. Absence of or decreased blood supply certainly bears an etiological relationship in some cases, but it is improbable that it would occur in all cases. Ulcer occurs with such frequency in patients suffering with chlorosis, anemias, arteriosclerosis, or Raynaud's disease (vascular spasm), that it cannot be considered a coincidence. In a series of five hundred and twenty-two cases, Sippy found that 26% had one or more of these affections. Embolic blocking or thrombosis will produce a similar diminution in the blood supply. It has even been suggested that there might be areas of circulatory inferiority due to developmental abnormalities in some cases. Vascular disturbances can at least be considered a predisposing cause of peptic ulcer.

The importance of the nervous system in the etiology has been emphasized by some authorities. Prolonged mental strain, shock and emotion may have some effect, as many ulcer patients are of the type that is inclined to worry. It may be an effect produced through the autonomic nervous system or some one or more endocrine gland. Rogers explains this by the fact that emotional disturbances stimulate the sympathetic system and it becomes fatigued. The vagus action is then given full play with a consequent production of hyperacidity, hypermotility, or pylorospasm, which may be followed by ulceration if the condition is prolonged. He bases this on dog experimentation. Another conception of the nervous influence on peptic ulcer formation is that it is a local trophic disorder similar to herpes.

Whether irritants, either chemical or physical, may produce peptic ulcer or not, we do not know. Experimentally produced lesions, however, heal readily, so we are inclined to doubt that irritants or trauma can produce ulcer unless there be other etiological factors present. Chemicals, such as alcohol or poorly prepared alcoholic beverages, especially when taken on an empty stomach, and spicy foods taken in excess, may irritate the mucous membrane. The occurrence of ulcer in total abstainers and infants shows that this cannot be an essential factor. Over-eating and poor chewing of food may produce abrasions of the mucous membrane and cause some devitalization of tissue, so allowing autodigestion to take place. These factors also increase the peristalsis of the stomach, affording a possible explanation for the fact that most ulcers occur at the pyloric end (due to driving of the food toward the pylorus, causing trauma there).

Consideration of the role played by the hydrochloric acid of the stomach in the production of peptic ulcer has been reserved till now for the reason that it must be considered with reference to the etiological

factors discussed already. It will be recalled that in almost every case of peptic ulcer there is an increase in the free hydrochloric acid of the stomach. The occasional case with achlorhydria, however, is enough to change its status from a factor of great importance to a contributing cause. Hyperchlorhydria can occur, too, without the production of ulceration. It has been definitely proven that normal, healthy tissue will not be digested by the gastric hydrochloric acid and digestive enzymes if it is properly nourished. Why it is that diseased or devitalized mucosa will be digested, we don't know, but some think that there is an antidigestive enzyme in the healthy tissue which is not produced when the tissue is diseased. We are not certain yet whether the hyperacidity causes ulceration or the ulcer gives rise to a secondary hyperacidity. It is believed that the hydrochloric acid does play a very important part as a contributing cause in the majority of cases. The location of ulcer only in parts exposed to the action of gastric juice (stomach, first portion of duodenum, and jejunum after gastroenterostomy) is highly suggestive of this. Another very strong point in favor of this factor of ulcer production is that treatment by gastroenterostomy, partial gastrectomy, or Sippy's alkaline diet method (which are really all mechanisms for decreasing the acidity of the juice bathing the ulcer) give relief in many cases. Hyperacidity, therefore, fits in very well with any of the theories of primary disease of the mucous membrane as a secondary cause of ulceration and later as a cause of delayed healing.

Closely related to hyperacidity is the matter of tonicity. Hurst believes that a hypertonic stomach empties its contents into the duodenum more rapidly so predisposed to duodenal ulcer, while the hypotonic stomach allows the gastric juice to remain in the stomach a longer time than normally and predisposes to gastric ulcer. Bell says that there is no evidence to confirm this belief.

Smoking tobacco has been mentioned as a possible factor in the production. This is based on the fact that nicotine stimulates the parasympathetic nerve endings of the stomach producing a hyperacidity.

Heredity and abdominal pressure of a prolonged nature are two factors that have been mentioned many times in the literature, but are with so little foundation that they will be dealt with lightly. The occurrence of ulcer in several members of the same family does happen, but it is probably merely coincidental. The abdominal pressure idea originated in a belief that shoemakers were commonly victims of peptic ulcer, and this was explained by the fact that members of this trade constantly exert pressure on their abdomens. The theory is discarded now.

CONCLUSIONS.

1. At the present time, we are unable to say that any one thing is the cause of peptic ulcer. It is more than a local disease of the mucous membrane and one must think always of the probability of some underlying cause in other parts of the body.

2. Infection stands out as the most probable cause of ulcer, whether other factors are present or not. This explains why the ulcer forms, then, with the irritation of the hydrochloric acid, we have a secondary cause for delayed healing.

3. Vascular disease or any of the other systemic causes mentioned may be predisposing factors by causing decreased resistance.

4. We are unable to conclude with our present knowledge that peptic ulcer cannot be produced by nervous, vascular, or endocrinal disturbances.

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DIAGNOSIS AND CARE OF THE FAILING HEART MUSCLE.*

ALLAN EUSTIS, M. D.,

NEW ORLEANS.

It is only a few weeks since we were all shocked by the sudden death of one of our colleagues, from acute dilatation of the heart, following a comparatively mild attack of influenza. A short time after this, the New Orleans papers announced the sudden death on the golf links of a prominent citizen from the same cause. Both had been advised against overtaking themselves, but the advice had been unheeded. I have been informed that neither of these cases had had any demonstrable cardiac lesion prior to the attack of influenza, and the cause of death, was no doubt, in each

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instance, a failing heart muscle from degeneration of its fibres as the result of toxemia associated with influenza, and both deaths were probably preventable had they followed the advice of their physicians.

That heart disease is one of the most frequent causes of death in this country is generally accepted, but it is also recognized that organic valvular heart disease does not kill as a rule, until the heart muscle weakens, and that as long as so-called compensation holds up the patient is not invalidated.

It is not the purpose of this paper to discuss organic valvular heart disease, but to consider only that type in which the musculature is primarily at fault, and the murmurs functional; that condition of the heart usually spoken of as "chronic myocarditis." There is rarely a true myocarditis or inflammation; and frequently, even no degeneration of the muscles can be found at autopsy, but from a functional point of view the heart muscle is at fault, and it is this failure of the heart muscle which causes death, and which demands early recognition and physiological treatment for a successful outcome. I am of the opinion that it is far more frequent than is generally supposed, from the fact that I have in my office files records of 478 cases of so-called "myocarditis" observed since 1911.

Christian⁽¹⁾ has repeatedly called attention to its frequency and in speaking of the frequent diagnosis of mitral insufficiency, states: "Some cases with apical systolic murmurs have normal hearts. * * * Few, if any, have a genuine organic mitral insufficiency, hence when you make that diagnosis in an organic sense, you are wrong in 99% of cases." An intensive study of all my cases will furnish the basis for a future paper, but it was considered of interest to tabulate the causative factor in one hundred of these cases, taken at random from the files.

According to Fahr⁽²⁾ 75% of chronic heart muscle disease is associated with hypertension, and he considers that acute or chronic infections play a minor role. An analysis of these one hundred cases of mine does not bear this out, and one is struck at once by the frequency of chronic gall bladder disease.

TABLE.

Showing probable contributing cause in 100 cases of myocardial insufficiency:

Hypertension (arterio-sclerosis & nephritis)	46
Chronic gall bladder disease.....	38
Influenza	12
Lues	5
Chronic Tonsillitis	4
Chronic Sinusitis (Frontal & Maxillary)....	3
Chronic Pancreatitis	3
Pyorrhoea & Alveolar Abscess.....	7
Diabetes Mellitus	3
Hyperthyroidism	2
Asthma	3
Indefinite, sedentary habits, obscure history	9

On the other hand Reid⁽³⁾ deprecates the frequency with which the diagnosis "myocarditis" is made and believes it is often a cloak for ignorance. Any one who has followed autopsies is impressed by the frequency with which degeneration of the heart muscle is found in chronic diseases, and if one errs on this side, it results only in inconvenience to the patient for a limited time, while failure to recognize the condition is often the cause of sudden death or chronic invalidism.

SYMPTOMS.

The history is of the utmost importance, and cannot be too carefully taken. The symptoms which occur most often in dyspnoea, many times elicited only on exertion, patients noticing that they are quite short winded after walking upstairs, while at other times they are quite comfortable. Cough is a common symptom, usually at night, non-productive in character, and also aggravated, or brought on by exertion. Patients, as a rule, do not complain of any pain in the cardiac region and palpitation has been the exception in my experience. Brooks⁽⁴⁾ has already called attention to

the frequency of abdominal symptoms, and many of my cases consulted me for such; these abdominal symptoms disappearing after the heart had been restored. Fishberg⁽⁵⁾ has called attention to jaundice in myocardial insufficiency, but this must be considered a rather rare symptom, and undoubtedly secondary to the passive congestion of the liver, which, however, is usually present.

Albuminuria is a frequent accompaniment and may be dependent entirely upon the heart action, the kidney function often not being demonstrably below normal. On the other hand, one must not forget that every case of long standing nephritis is associated with degeneration of the heart muscle, and careful examination of the heart should be made in every such case. Oedema of the ankles or lungs must be considered as a late symptom and if one waits for its appearance for a diagnosis, the prognosis is graver and the convalescence much prolonged.

Occasionally, there is an associated fusiform dilatation of the aorta, which in my experience, will diminish in size as the heart muscle regains its tone. An explanation of this phenomenon is not at all clear, but I have repeatedly observed it after frequent skiagraphs of the chest taken at 2 meter distance from the tube.

PHYSICAL SIGNS.

The size of the heart is no guide to its functional capacity, being often enormously enlarged and hypertrophied with no signs of lack of efficiency, while in the senile type of case with brown atrophy of the heart muscle the organ is small. An increase in dullness to the right, however, without corresponding increase to the left should lead to suspicion, while an apex beat displaced downward should also cause suspicion. The latter, however, must not be confused with the so-called dropped heart, present in ptotic individuals who often present certain symptoms suggestive of myocardial insufficiency. A soft sys-

tolic murmur audible at the apex, is usually present, often not transmitted and often heard best in the 4th interspace about 3 cm. to the left of the sternal margin, while in other cases it is audible only after exertion. In some cases the murmur is quite loud, harsh, transmitted up the axilla and cannot be differentiated from an organic heart murmur, but it will disappear entirely after the heart muscle has recovered its tone. (See cases.)

The systolic blood pressure will vary, some beats, when taken by the auscultatory method, being audible at 20 to 30 m.m. higher than others. In discussing Christian's⁽¹⁾ paper before the Southern Medical Association, Canby Robinson called attention to this inequality in the systolic blood pressure as an evidence of myocardial weakness, and so frequently is it present, that I regard it as a most valuable sign. It requires no particular skill to detect this inequality in systolic blood pressure, and were its significance more universally accepted, it would tend to lower the incidence of heart disease considerably. Guthrie⁽⁶⁾ several years ago called attention to a phenomenon he had observed in failing heart muscles, which obtained when the patient was made to expire violently against a closed outlet, the mouth being closed tightly, and the nose being held firmly closed with the hand. Increase in cardiac dullness was noted even in the normal heart, but with a failing heart muscle the return to former size was very much delayed. This is a valuable sign, but requires more or less expertness in the art of percussing.

In my experience the Dwight-Frost⁽⁷⁾ cardio-respiratory test is the most valuable means at our disposal, or testing, directly, the capacity of the heart to respond to strain. The effort syndrome has for years been brought out by having patients do various exercises, but the strain on the heart will vary to such an extent, depending upon the physique of the patient, that it is of small value. In the Dwight-Frost

apparatus, we have the means of definitely measuring the strain upon the heart muscle by the aid of a guage which registers the positive pressure in the lungs, so that the personal equation is reduced to a minimum.

The Katzenstein test for myocardial insufficiency, advocated by Antunes⁽⁸⁾ may be mentioned, although I have had no personal experience with it. It depends upon observation of the systolic blood pressure before, and while the femoral arteries are compressed at the crural arches for two or three minutes.

TREATMENT.

Prophylactic treatment depends upon a recognition of the predisposing causes of myocardial insufficiency and consists in (1) caution against undue exercise (sufficient to cause dyspnoea) in all cases of organic valvular heart disease, all nephritics and cases of hypertension, and those recently recovered from an acute infectious disease, or the victims of severe chronic infection, in which infection of the gall bladder must be included; (2) moderate, regulated exercises to tone up the weakened heart muscle, and avoid a failure of same.

Curative treatment will consist of physical and medicinal. Absolute rest in bed for a period of time from four weeks to four months, depending upon the severity of the condition, is the prime requisite. I have seen so many cases which have been told to "be careful about exercise," which should have been put to bed at once, that I am inclined to think the value of rest is often overlooked. Daily massage, is of course required, to keep up the tone of the skeletal muscles. If the condition has followed an acute infection and the myocardial insufficiency, can be detected only after heart strain, it is not necessary to put the patient to bed, but he should be cautioned to go upstairs slowly, and to avoid all exercises sufficient to cause dyspnoea.

Digitalis in full doses according to the Eggleston plan, or cat-unit doses of Pratt

is indicated in the severer types, but the milder types require only tonic doses. The heart in this condition can be likened to a fatigued horse and digitalis to a whip. It is far wiser to lighten the load than to use the whip to excess, and I have had excellent results in giving ten to fifteen drop doses of a standardized tincture, three to four times daily, for four days, with an interval of rest of four days.

The liver, being in a state of passive congestion, demands res also, and this is accomplished by attention to the bowels and a low protein diet. Unless there is oedema and complicating nephritis, I can see no reason for restricting fluids and salt, but excessive amounts of fluid are certainly not to be advised.

As soon as the condition of the heart muscle warrants, the exciting cause in the case of focal infections, should be removed.

A few brief histories will exemplify some of the points I have raised:

Case 1. Mr. B., age 85, has been under continuous observation since 1911, at which time he had constant hypertension of from 220 to 240, but leading a strenuous business life; no serious illness or infection since childhood, and temperate habits. There was no atheroma nor renal impairment, and no cardiac murmur. He was advised to restrict activities, but the advice was unheeded. In 1912 he had an acute dilatation of the heart with loud systolic blow at apex, precordial thrill, tachycardia, oedema of lungs and extremities, albuminuria and granular casts, with an enormously enlarged, boggy liver. Murmur was considered as organic by two consultants, and six months was given as the limit of life. Kept in bed for three months, with daily massage, digitalis, and kept on a low protein diet. After getting out of bed, exercise was only slowly permitted, and elevator was installed in his home, while he was constantly cautioned against overtaking himself. Illness compelled giving up all business and he has been living a life of ease since 1912. For the past ten years he has been in perfect health, blood pressure varying from 140 to 160; heart is normal in size, no murmurs are audible and there is no albuminuria and only an occasional hyaline cast, with a phenol sulphonephthalein output of 50% in two hours. His was an example of "hyper-

tensive myocardial insufficiency" and the reparative processes of nature are well exemplified in his case.

Case 2. Mrs. K. First seen by me in 1918 when she was 45 years of age. Her principal symptoms were dyspnoea on the slightest exertion, paroxysmal, dry cough, worse at night, which caused severe dyspnoea, at times with cardiac palpitation. Progressive anemia. She had had typhoid fever and measles as a child but no history of any other infections. She had noticed dyspnoea for four years previous on climbing stairs, but this symptom had been getting progressively worse for the previous two months when the cough had made its appearance. Her anemia had been noticed for a year. Physical examination revealed a fairly well nourished woman, pale and with plain evidences of air hunger in dilated alae nasi and short rapid respiration. The heart was enlarged both to the right and to the left, the transverse diameter measuring 16 cm. at apex. A soft systolic blow was audible at the apex, extra systoles were audible, while there was evident myocardial weakness, the systolic blood pressure varying from 160 to 120, with a diastolic pressure of 70. There were definite signs of fluid in both pleural cavities, more extensive in the right. Liver enlarged and palpable 4 cm. below costal margin but not sensitive to palpation. Blood examination showed a moderate secondary anemia. Urine contained albumin and hyaline casts.

After aspirating about 1500 cc. of clear, straw-colored fluid from the right lung, a two-months' rest in bed with digitalis therapy and a low protein diet her dyspnoea promptly disappeared. Her heart became regular, the apical systolic blow disappeared, urine showed no albumin and her liver became normal in size. She has no further evidences of cardiac weakness and at present is leading an active life. The only causative factor in this case was to be found in a positive Wassermann reaction on the blood.

Case 3. Mr. S., age 65, has had asthma all his life at frequent intervals, but has led an active life and rarely confined to bed. When first seen by me in March, 1923, his principal symptoms were attacks of vomiting, gastric distension, belching, almost constant nausea and loss of weight. On questioning, he admitted dyspnoea on very slight exertion, but thought it came from his asthma, which, however, had not bothered him to any extent since 1914, following an operation on his nose. Three weeks previous he had suffered a mild attack of La Grippe with temperature 101.1°. Physical examination revealed an emaciated male with anxious expression but with no dyspnoea. The heart was

enormously dilated, the apex beat being 4 cm. outside nipple line over which a thrill could be felt, the beat of an expansile type. A loud systolic blow was audible at the apex, pulsus alternans present, the systolic blood pressure varying from 130 to 110; diastolic 70. Lungs—scattered, sibilant rales in both lungs, but no evidence of consolidation. Liver—enlarged and sensitive, especially over left lobe.

A two-months' rest in bed with digitalis resulted in disappearance of the murmur at the apex, which receded to the nipple line, and systolic blood pressure became regular at 130. Gastro-intestinal symptoms disappeared after the first week in bed. For a year he gave up active business and only gradually increased his physical exertion, but at present is active head of a large mercantile house, and has been able to "carry on." I see him at infrequent intervals and at times the systolic blow at the apex is audible, with displacement of apex beat slightly outward and a return of the alternation in his systolic blood pressure, always the result of overexertion. His response to the Dwight-Frost⁽⁷⁾ cardio-respiratory test shows that his heart muscle is still unable to withstand strain and he has to be constantly reminded that overexertion is to be avoided. A mild pulmonary infection in a chronic asthmatic was sufficient to cause failure of the heart muscle, on account of his not resting up after this supposedly mild attack.

The three histories briefly outlined show marked failure of the heart muscle, but by means of the Dwight-Frost⁽⁷⁾ cardio-respiratory test, one is able to detect signs of failing heart muscle before pronounced symptoms present themselves. The technique of this test was demonstrated by me at the last meeting of the Southern Medical Association, and will shortly appear in the official Journal, but cannot be considered here.

SUMMARY.

- I. The diagnosis of failing heart muscle should be made early.
- II. Rest is as important as any drugs in its treatment.
- III. Alternation in the systolic blood pressure is a valuable sign of failing heart muscle.

IV. The Dwight-Frost cardio-respiratory test is of greatest aid in recognizing early cases of myocardial insufficiency.

V. All acute infections leave their imprint on the heart muscle and careful examination of the heart should be made in all patients convalescing from such.

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DISCUSSION.

Dr. Irving Wolff (Monroe): I thoroughly enjoyed Dr. Eustis' paper and the more do I want to stress the early recognition of the weakened or failing heart muscle. Too many of us have paid little attention to the diagnosis of this condition. It has been more noticeable in my practice here during the last flu epidemic that visited us. I have in mind some twelve or fourteen cases, especially three or four of them, where the abdominal symptoms were the most important and first symptoms of this condition. This is, in my opinion, the most important of all. Any of the intestinal upsets that our patients have, whether it be in the form of so-called belching up of gas or whether it be in some pain or whether or not it is some slight dyspnoea upon exertion makes no difference.

I think that we should probably go back first to our abdominal symptoms and then build up-

ward. I have two cases now that I have held in abeyance trying to make a diagnosis of a weakened heart condition following some gall bladder trouble. These cases have not ever developed any mitral murmur at all. Upon getting out of bed, even walking from the bed to the bath, a distance of something like twenty-five or thirty feet, they begin to complain, first, of a fullness in the abdomen followed next by a shortness of breath. There is now a beginning slight hypertension taking place but I have not, as I said, found any murmurs. The P. S. T. test is practically normal; there is a very faint albumin present upon the acetic acid test with a rare hyaline cast.

I have diagnosed these cases as a failing heart muscle, regardless of the fact that I have failed to find any slight enlargement of the heart. We should not wait until a heart becomes chronic to make a diagnosis.

I thoroughly concur in what Dr. Eustis has said about a murmur. Too many of us make a definite diagnosis of heart disease upon finding a mitral murmur when as a matter of fact that probably is not the cause of the case. I want to stress upon you the importance of finding these conditions in the acute diseases that we are having now. I have a case in mind now. Some four months ago I was called out to see this patient and a diagnosis of influenza was made. He remained in bed for two weeks, was out of bed for three weeks, then began to complain of shortness of breath and a fullness in the abdomen. The blood pressure readings, a man of fifty-five years of age, were 130 systolic and 80 diastolic. Three weeks after the making of these blood pressure readings I was called out to see him and was told that he was having some kind of a spell. Just as I walked into the room I found him with a convulsion. The systolic blood pressure was 260, the diastolic 110. There was a slight enlargement to the left and downward, with a very faint mitral murmur, systolic in time.

This man was put to bed and put on the Halsey as well as the Eggleston method of digitalization and he improved for a week. Some two or three days after that he had another convulsion and died. At no time was I able to find a kidney function test below normal nor was I able to find any but a very faint trace of albumin as well as hyaline casts. (Applause.)

Dr. B. A. Ledbetter (New Orleans): Mr. Chairman and Gentlemen: I have been very much interested in Dr. Eustis' paper for the simple reason that we all know and realize that heart disease is carrying off more people than

any disease in the world and is growing more rapidly than any disease in the world except cancer. Therefore, it is a subject that is of great interest to us all, the surgeons as well as the internists. Furthermore, we know less about the heart than any other organ in the body. Up to this last war, the medical profession was absolutely in the dark regarding heart conditions and the diagnosis of heart disease. In Dr. Eustis' paper he brings out and he lays stress on the point of gall bladder trouble and heart disease. We all admit that any infection, as a matter of fact, all of our troubles come from focal infections. Therefore, any infections that would disturb the gall bladder would naturally disturb the heart. All infectious diseases, as a matter of fact, infect not only the heart but every organ in the body. Therefore, we must not lose sight of the fact that that same infection that attacked the gall bladder also attacked the heart muscle.

We see the results of an impaired heart probably quicker than almost any organ in the body because the heart is the most important organ in a man's body. Gentlemen, we must not lose sight of the fact that there is a focal infection somewhere. To my mind gall bladder trouble does not necessarily impair the heart muscle but it is that infection, it is the same infection that caused that gall bladder trouble that is weakening the heart muscle.

We all realize and appreciate the fact, and I believe we all agree that we should not lay too much stress upon the heart murmurs from the diagnostic standpoint. Though they are important, they are important from the point of view that it is up to us to find out what that murmur means. It may mean nothing. Dr. Eustis in his paper stated that very few people have mitral murmurs of the mitral valve as organic. I can't believe it. They are not nearly so numerous as the aortic murmur but they do exist, especially from a rheumatic condition. Any murmur where we find an intermittent pulse, an irregular pulse, I say, gentlemen, we have to look upon that case with grave suspicion. You can't tell that man he has no organic trouble, but on the other hand, suppose that you find the mitral murmur with no symptoms that would lead you to believe it is serious. The man is perfectly well in every respect. He carries on his work. Then I don't believe we are justified in telling that man he has organic heart trouble.

In another part of Dr. Eustis' remarks he mentioned the fact that syphilis is not looked upon as so prevalent a cause of heart disease. I want to say, gentlemen, that ninety per cent of all aortic lesions, in my opinion, are due to syphilis.

In these cases of aortic insufficiency you very seldom find that they have not had or have at the present time a very high blood pressure. While I am on this point I want to express the fact that I have on numerous occasions diagnosed aortic insufficiency with the blood pressure. Invariably in aortic insufficiency you get a tremendous blood pressure. For instance, you have 190 or 200 systolic pressure with a 60 diastolic pressure. That, gentlemen, is almost pathognomonic. You rarely need a stethoscope to diagnose that condition, and I believe that 90 per cent of these cases are due to syphilis.

Dr. Eustis laid stress on the point that we should early recognize the heart muscle; that is, in other words, to find out as nearly as we can the condition of that heart muscle. That is a very, very difficult thing for us to determine. That, to my mind, is one of the most important things, and the method that I have used with a great deal of success but not always positive is the fact of a man's blood pressure. For instance, take his blood pressure before, record it carefully, then exercise him. Five minutes or three minutes after vigorous exercise take his pressure again and 90 per cent of the weak heart muscles can be determined that way. You know, exertion increases blood pressure. A man can't have a low blood pressure and a good heart muscle for the reason that the high blood pressure is based on a good, sound heart at that time. Now if this blood pressure drops and does not go up, then I think I am justified in saying that that man has a really failing heart muscle. (Applause.)

Dr. N. F. Thiberge (New Orleans): I want to insist upon two points that have been brought out in Dr. Eustis' paper but I would like to bring them out a little more clearly. One of them is the value of elimination in weakened heart condition. The American Medical Journal spoke of several cases of paresis that had gone on years and years and at autopsy the spirochaete was still found living and active in the tissues.

We must not forget that the heart muscle not only needs to be supported but we have to do all we can in order to remove the cause at work and to remove the poison that is left in the system by the micro-organism or the focal infection, whatever it might be. That is one point that I would like to bring out—elimination.

The second point is the importance of dyspnoea as an indication of a weak heart muscle. In our hay fever and asthma clinic at the hospital we are always very suspicious whenever the case turns out negative with the skin test, and often when we run them through an X-ray examination

we are not at all surprised to find heart lesions that have been overlooked and if the warning symptoms of dyspnoea had been heeded heart lesions would have been recognized.

Dr. D. O. Willis (Leesville): Mr. Chairman and Gentlemen: I just want to say a few words as a plea to the general practitioner, based on my past experience and opinion. Dr. Ledbetter, in his talk, mentioned how little we knew about the heart before the War. I want to corroborate what he said. I had always thought I was doing about the best I could to try to make a diagnosis in my cases and find out the condition of my patients, but while I served in the army I happened to be on a board that examined hearts, one after another, all day, and I found out I never had known a thing in the world about the heart before, although I had been practicing medicine for some fifteen or seventeen years. I just didn't know a thing about it, and today I go about with my brother practitioners and see their cases with them, and I find that they haven't used a stethoscope with a patient who has had an influenza or perhaps other conditions that might cause heart lesions. I have found that the routine examination of the heart in all conditions shows me much more disturbance with the heart than I formerly knew of. I would no more think of having a patient with influenza or any suspicion of a focal infection without thoroughly examining the heart with a good stethoscope than I would think of having a typical case of malaria and not giving quinine.

I am saying this as a plea to the general practitioner who might be a little careless in his examinations, do not disregard the extreme importance of a careful examination of the heart in all conditions that we look on as being the cause of heart troubles.

I recently treated a lady who had influenza. She was forty-eight years old. She never went to bed from her influenza but came to my office. I treated her and cautioned her to go home and take care of herself. About two weeks later I was called to see her and found that she had a weak heart muscle. I put her to bed, put her on eliminative treatment and cautioned her to stay in bed until I saw her again and to take care of herself thoroughly. To my surprise when I saw her two weeks later she had been up without my consent and just a few days later she died from a weak heart.

This final plea to the general practitioner who might be a little careless to examine very carefully and look for these weak heart muscles and for the weakened condition of the heart in general. (Applause.)

Dr. W. S. Kerlin (Shreveport): Let us not overlook the importance of cardio-sclerosis as a probable etiological factor in producing myocardial weakness. We know that cardio-sclerosis occurs in the young as well as in the old without any extensive arterio-sclerosis. Autopsies have been performed on young men in the thirties in whom the peripheral vessels were apparently not much involved and the vessels of the heart itself were involved. If the heart muscle receives frequent insults from gradual occlusion of the coronaries wies liberation of large or small emboli, we can readily see that the heart muscle is going to be damaged thereby. I used to believe that if you got such an infarction it meant sudden death. I have arrived at the conclusion from reading articles by pathologists who have studied this condition at the autopsy table that you can have repeated occlusions, that is from small emboli, which cause an infarction of the heart muscle and produces a temporary weakness and the heart muscle will recover. It depends entirely upon the size of the infarction as to whether death is going to be immediate or delayed.

I have had occasion to observe two cases recently in which, without any apparent previous heart disturbance, they were seized with sudden pain in the chest, radiating to the gall bladder region. The blood pressure in two cases I remember didn't register above 70 systolic and one that lived for three days with a systolic pressure that did not register above 70. It just seems to me that a good many of these conditions are really cases of cardio-sclerosis with thrombosis. In the newspapers we frequently read where people have died of acute indigestion, etc., very suddenly. I believe that a good many of these cases are cardio-sclerosis, a gradual occlusion with resulting myocardial deficiency and then finally you get a pretty large vessel blocked, which of course means death.

Dr. Eustis (in closing): I won't take much time. Dr. Wolff called attention to the belching that takes place in these cases, which I neglected to include in my paper. I didn't take up the treatment of all the symptoms. Dr. Fishberg has shown in an analysis of a large number of cases of myocardial insufficiency that there is a marked reduction in the hydrochloric acid of the stomach. You will find the administration of this acid often a valuable aid in the treatment of this symptom of myocardial insufficiency.

I want to take exception to my friend, Dr. Ledbetter. The statistics I quoted were verbatim from Dr. Henry Christian, recognized to be an authority on heart disease. When Dr. Ledbetter speaks of syphilis and aortic insuffi-

ciency, that is a different thing. We know that aortitis, in 90 per cent of the cases, is due to syphilis and the aortic insufficiency that Dr. Ledbetter speaks of is probably secondary to aortitis. So he is right in that respect, but I was not speaking of this type of heart disease. I was speaking of myocardial insufficiency and I didn't even call it myocarditis.

I am more interested in calling the attention of the general practitioner to the routine examination of the heart and to urge him to tell the patient, not that he has organic heart disease, but that he has a *weak heart muscle* and to curtail his activities. Dr. Willis practically covered my final plea. (Applause.)

THE TREATMENT OF PURPURA HEMORRHAGICA BY SPLENECTOMY.*

WITH THE REPORT OF A CASE.

W. S. KERLIN, M. D.,
SHREVEPORT, LA.

The etiology of purpura hemorrhagica is unknown. Sir William Osler referred to purpura as "That obscure and interesting manifestation of which we know so much and at the same time so little." It is not strange then that the therapy should be empirical. Credit for the suggestion of splenectomy as a cure for purpura hemorrhagica is usually given to Kaznelson of Prague, who performed the first splenectomy for this disease in 1915.

Giffin and Halloway of the Mayo Clinic reviewed the literature in August, 1925, and rendered a detailed report of twenty-eight cases treated by splenectomy. The past month Allen O. Whipple, of New York City, reviewed the literature and reported eighty-one cases in which splenectomy was resorted to as a therapeutic measure. Of the eighty-one cases there were seventy-three of the chronic type, which gave the most spectacular results. Eight were of the acute type. There were only six deaths among the chronic variety, while seven of the eight acute cases operated upon died. Of

the sixty-one followed cases fifty-one gave good results, four fair and six poor. Fourteen cases were reported that have gone a year or more without recurrence of symptoms. On the other hand a few cases were reported where there was later occasional nose bleed and petechiae.

The relation of decreased blood platelets to purpura hemorrhagica is well recognized, whether this decrease in blood platelets is due to failure of the bone marrow to form new platelets or to an over-activity of the reticulo-endothelial cells in destroying them is still a debated question. The general opinion would seem to favor the theory, championed by Kaznelson that the blood platelets are formed in normal numbers but are destroyed by overactive phagocytosis in the spleen and other parts of the reticulo-endothelial system. That the normal spleen destroys platelets is favored by the fact that there is usually a sharp rise in the platelet count after splenectomy. It is also generally agreed that the platelets are the most important formed elements concerned in blood clotting. The results of splenectomy in purpura seem to depend upon whether the major part of platelet destruction is taking place in the spleen and also upon the inciting cause.

In the so called chronic type of disease with hypertrophied spleen this would seem to be the case, for it is in this type that removal of the spleen produces lasting results.

In most cases reported, at some time before operation the platelets numbered less than 50,000. In a few cases the counts were in the hundreds. After operation the platelets almost always rose rapidly to normal or above, but diminishing to a lower level within a few months afterwards. Many of the cases reported showed a persistently low platelet count after operation without recurrence of symptoms.

So far as is known at present only well defined cases should be recommended for

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splenectomy, therefore a correct diagnosis becomes of special importance. Purpura is characterized by the following findings, a low or absent platelet count, prolonged bleeding time, failure of the clot to retract and normal clotting time. The main point to be decided once the diagnosis is made is whether the patient has the chronic recurrent form or whether it is the acute fulminating type. As stated before the former type is usually promptly and permanently cured. The latter type is seldom benefitted. The chronic recurrent type gives a history of repeated attacks of purpuric splotches, irregular bleeding from gums and in women menorrhagia.

When one considers the failure in many cases of medical measures, including transfusion to control the main symptom, bleeding; and then observe the amazing immediate improvement following splenectomy in so called chronic purpura hemorrhagica, the enthusiasm on the part of the medical profession can be well understood. It may be said that this operation has contributed the greatest advance in the treatment of the purpuras, but limited largely to the chronic variety.

The following case report illustrates the apparent life saving and curative effect of treatment by splenectomy of a chronic recurrent case:

C. W., white, female, aged fourteen years, a school girl, was admitted to the T. E. Schumpert Sanitarium, Shreveport, La., January 4, 1926, on the surgical service of Dr. J. C. Willis. Her chief complaint was profuse and prolonged bleeding from the vagina during the menstrual flow. The present complaint began in June, 1925, with the onset of her first menstrual period, a profuse flow persisting for eleven days. During a copious flow the following month, a dilatation and curettage was done with temporary relief. The latter part of August she began menstruating again, which persisted for about two weeks. Radium was used during or immediately after this attack. No further bleeding occurred the following four months; but about two weeks ago, the bleeding returned and had not ceased upon admission to the sanitarium.

Her mother thinks that the tendency to bleeding began soon after taking the Pasteur treatment in 1918; as some two or three weeks later she first observed spots of blood on pillow from bleeding gums. She also discovered bluish black spots over different parts of the body following slight injuries. Later on she noticed some blood in the urine and occasionally altered blood appeared in the bowel movements. The above phenomena recurred at infrequent intervals from 1918 up until beginning of menstrual flow; the date of onset of real complaint. She had never had any serious illness in past life, except pneumonia. At the age of nine years following extraction of some teeth she bled for twenty-four hours. The tonsils were removed in 1921 with troublesome oozing for about three days.

Her family history is unimportant.

Physical examination: The patient is a very well developed, well nourished girl; but very pale and seems to be extremely anemic. A few dark splotches are scattered over the lower extremities. There are several pigmented scars over legs from previous injuries and hemorrhages. There is no adenopathy; reflexes are normal; lungs are normal. The heart is normal, except for a functional systolic murmur over apex and base. The abdomen is moderately distended and tympanitic. The spleen edge is palpable but not firm or tender. The liver is not enlarged. She is bleeding and passing clots from vagina. The total red cell count is 2,060,000, total leucocyte count 9,062, polymorphonuclear neutrophils 68%, large lymphocytes 10%, small lymphocytes 22%, hemoglobin 60%, coagulation time 4½ minutes, bleeding time 6 minutes, platelet count 40,000; Wassermann negative, urine negative for abnormalities.

A diagnosis of purpura hemorrhagica was made and splenectomy advised should transfusion fail to check the bleeding.

Course of disease: Following two transfusions of citrated blood on January 6th and 14th, bleeding from vagina subsided. Four days later the total red count was 2,730,000, hemoglobin 65%, bleeding time five minutes, platelets 35,000. She was permitted to return home with the hope that she would continue to improve but within two or three days the bleeding recurred. She was readmitted January 28th in a worse condition than upon her discharge nine days previously. We then realized that the operation should have been performed earlier. The total red cell count had decreased to 1,780,000, platelet count 40,000, hemoglobin 40%. Splenectomy suggested but considered inadvisable for the time being on account of her general condition. She was trans-

fused the following day with 300 c.c. citrated blood and again with 400 c.c. five days later but to no avail, as she continued to lose ground, the bleeding from the vagina increased. Her general condition now was extremely bad, her color being of a waxy hue. The total red cell count dropped to 1,240,000. As a last resort and with some misgivings as to the ultimate outcome her spleen was removed February 8. The operation was performed very quickly with the loss of only a minimum amount of blood. The spleen, about three times the normal size, was attached by a fairly long pedicle and entirely free from adhesions; it was smooth and bluish gray in color.

Within a few minutes after removal of spleen her color became noticeably improved, along with some improvement in her pulse rate and volume.

She passed a few dark clots from vagina occasionally the day of the operation but none thereafter. The improvement was very rapid considering her condition at time of operation.

Four days after operation the total red cell count was 1,340,000, total white cell count 11,150, polymorphonuclear neutrophils 79%, large lymphocytes 5%, small lymphocytes 16%, platelet count 40,000.

Twelve days following the operation the total red cell count was 2,100,000, platelet count 150,000, reticulated red cells 8%, nucleated red cells 16% (normoblasts) observed for first time and indicating active bone marrow reproduction.

She was discharged fifteen days after operation following an uneventful post operative recovery except for a moderately low grade fever which persisted for fourteen days.

Pathology of spleen-weight 347 grams, frozen sections showing fibrous and lymphoid hyperplasia.

March 26, 1926, returned for observation stating that she felt fine and was gaining strength, total red cell count 3,200,000, total leucocyte count 10,600, platelet count 160,000, bleeding time 4 minutes.

She was seen again four days ago and her improvement was very evident even since last observation. She is gaining in weight and strength and she no longer has the sallow anemic appearance that had existed for the past year. The total red cell count was 3,800,000, hemoglobin 75%, platelet count 148,000.

DISCUSSION.

Dr. I. I. Lemann (New Orleans): Three years ago at Atlantic City at a meeting of the Association of American Physicians, I heard the report of Dr. Brill of New York, giving his experi-

ence with splenectomy in purpura hemorrhagica. To me the report was dramatic. He described patients practically in extremis. Their condition was worse than that in the case that you have heard from Dr. Kerlin. The result was even more striking. The bleeding was so great at the time of the operation that the surgeon feared he might not be able to close the incision, and yet once the pedicle was ligated and before the spleen was out, the hemorrhage had stopped and the wound was closed dry. The patient was from that time immediately better and made an uneventful recovery.

The report was all the more interesting and dramatic to me because I had left at home a boy about seven years of age who had purpura hemorrhagica which we had not been able to check or control by repeated transfusions. So immediately upon my return to New Orleans, this boy's spleen was removed by Dr. Isidore Cohn and the purpura was at once stopped. He has had no return. The boy is in absolutely perfect health now, three years after this splenectomy was done. The last blood examination showed a perfectly normal condition of the blood. It is only fair to say that our case was not as severe as Dr. Kerlin's case or the cases of Drs. Brill and Rosenthal.

As Dr. Kerlin has told us, it is most important that we should realize that not all cases of purpura, even extreme cases of purpura, are purpura hemorrhagica essential; that is to say, thrombocytopenic or thrombo-cytolytic purpura, meaning by that, a purpura in which there is a low blood-platelet count. It is only in this type of purpura hemorrhagica where there is a low platelet count that we may expect a benefit from splenectomy. We may have a purpura hemorrhagica symptomatic which may be just as severe as the purpura hemorrhagica essential thrombo-cytolytic. I saw a few months ago such a case in a young man of thirty odd, who had been under observation some ten years, with diabetes. He subsequently, a couple of years ago, became leucic and developed a marked anemia. His end came with a tremendous purpura hemorrhagica, oozing and bleeding from gums and nose, with spots all over the body, and finally ending with high temperature. This man, however, did not have the earmarks that Dr. Kerlin has pointed out to us as being the disease benefited by splenectomy.

The next point that I wish to stress is the relation of the thrombocytic count, the platelet count, to the purpura. It has been suggested that it is the lack of the platelets that causes the purpura. I am not altogether convinced of that and in my own report of our case I have suggested that perhaps the relation of the platelet

count to the disease is not one of pathogenesis but rather the relation as we see of leukocyte count to inflammation; just as we have a leukocytosis in acute appendicitis; for example, we may have a low platelet count in essential purpura hemorrhagica. My feeling about this is accentuated by the experience of seeing the platelet count fall again after the primary rise following splenectomy and the failure of purpura to appear when the platelet count falls. (Applause.)

Dr. Kerlin (in closing): I haven't very much more to add as Dr. Lemann, in his discussion, covered the subject so thoroughly and really said what I had intended to add. Like Dr. Lemann, I am not altogether convinced that the reduction in platelets is the only cause of the bleeding in these cases. There must be some other condition, possibly in the reticulo-endothelial system, but certainly it seems that the platelets have a very vital connection in this respect because in all these eighty-one cases reported in the literature the counts were invariably below 50,000. Some of the counts were in the hundreds.

Another interesting point is to study the blood smears of these cases before operation and compare the relation of the platelets to the blood cells. Basing the normal red blood cell count at 5,000,000 and platelets at 300,000, you would expect to find about one platelet to each six red cells. As a matter of fact, in this particular case you could go over and over several fields and not find a platelet. Eight or ten days after operation, in observing the smear, you could just see it loaded with platelets, which is further proof that the platelets have certainly increased.

Practically all the cases operated upon have been in young females—not that it doesn't occur in males but it is certainly more common in females and these are the type of cases that you have to resort to splenectomy in for the simple reason that the bleeding comes on with the onset of the menstrual flow. Each month with the onset of menstruation there is a profuse bleeding and you have to do something to check it. In the male it seems that the bleeding occurs usually from the gums, possibly from the bowel, and apparently it is much more easily controlled.

Another point I would like to stress is to make a correct diagnosis. This case had evidently not been diagnosed correctly or the treatment resorted to would not have been put into effect, because we all realize that curetting and packing these cases will not do them any good.

Likewise with radium: It is very doubtful that it will do any good.

I wish to thank Dr. Lemann for his discussion and the other doctors for their attention.

POST-OPERATIVE CHRONIC DUODENAL OBSTRUCTION WITH GASTRIC DILATATION.*

REPORT OF A CASE.

DONOVAN C. BROWNE, M. D.

NEW ORLEANS.

Duodenal obstruction in the sense of a motor retention within the duodenum is a clinical entity that may be considered under two headings. First: The acute obstructive type, associated with acute dilatation of the duodenum, as well as dilatation of the stomach. This condition follows, as a rule, abdominal operations. Second: The chronic type which results either to adhesive webs or bands, or from alimentary ptosis of a marked degree with duodenal kinking or from abnormalities in the anatomical relationship existing between the mesentery and the duodenum. It is to the second condition, particularly, that our interest has been directed in the present instance. A search through available literature has shown a dearth of references in regard to chronic duodenal obstructive lesions up to within a very recent period.

The first recorded reference on this subject was made by Boernerous in 1752, in which he describes the symptoms of chronic duodenal obstructions. Yeates again in 1820, makes a note of toxic symptoms which he attributes to the partial occlusion of the duodenum by the transverse colon. A considerable mass of literature has collected since this time, in which the question of the anatomical relations of the duodenum to the vertebral column and the mesenteric vessels has been dealt with in detail. In 1897 Louis Dwight made a series of casts of the duodenum, which were later studied by Kellogg. In these Kellogg noted a uniform pressure defect or narrowing at the

*Read before the Orleans Parish Medical Society, February 22nd, 1926.

juncture of the first and second portions, over the vertebral column, and an acute angulation at the duodeno-jejunal flexure, a good proportion demonstrated a distinct grooving by the superior mesenteric artery. He draws the conclusion from these facts that "The duodenum is placed at disadvantage in the matter of drainage and is easily subject to mechanical obstruction." Valuable contributions along this line have been made by Bloodgood, Codman, Robertson, Connor and others, in which the subjects of prolapsed cecum, short mesentery, visceroptosis, *gastro-optosis*, and their relation to duodenal obstructive processes have been dealt with. A very comprehensive review of the literature was given by Kellogg and Kellogg in 1921.

It is not an uncommon event for the surgeon at operation to find bands which extend from the duodenum to the under surface of the liver and gall bladder. These may in some cases be simply variations of the gastro-hepatic ligament, or else anomalous folds of the peritoneum. In other instances, such bands may be of true inflammatory origin. In either event, should the duodenum become fixed or immobile, prolapse of the stomach or colon will bring about partial or complete obstruction of the duodenum when the patient assumes an upright position.

Moreover, isolated cases have been recorded recently where duodenal occlusion has occurred as a result of adhesions forming between the gall tract and the first or second portion of the duodenum. The most notable feature of this, as well as other types of duodenal obstruction, has been the marked toxic symptoms which arise. The toxicity of retained duodenal contents is in sharp contrast to the rather mild poisoning resulting from gastric stasis. The most far-reaching piece of experimental work along this line has been carried out by Whipple, Stein, Bernheim and Maury, in which they have demonstrated the chemical nature of the toxic bodies fol-

lowing stagnation within the duodenum, and have shown that death occurs from chemical substances rather than from bacterial toxins.

SYMPTOMS.

The symptoms in these cases may be divided into mechanical and toxic. The mechanical symptoms will of necessity vary somewhat with the point and extent of the obstruction. If this occurs in the first portion we have a picture simulating more or less a pyloric obstruction, with epigastric pain occurring one to two hours after meals, fullness and a sense of pressure or distress in this region, which may be relieved by the regurgitation, often by lying down, or by pressing in and upward of the abdominal wall. This relief occurs when the obstruction is the result of a downward pull by a prolapsed colon or stomach. Hyperacidity occurs irregularly. They often experience a sudden breaking loose and gurgling sounds, after which there is some relief. Gastric dilatation may develop as the process progresses. Should the compression occur in the second portion about the ampule of Vater a chronic jaundice with enlarged and sensitive liver may follow, as has been recorded by Anders. Obstructions in the third portion and at the duodeno-jejunal flexure is more often associated with a duodenal dilatation and seems to give a consistent point of tenderness to the left and above the umbilicus as pointed out by Kellogg. Toxic manifestations noted are somewhat common to all types, though they vary widely with the individual case, and the extent of the occlusions. More pronounced are mental and physical depression, nausea, regurgitation, low blood pressure, lassitude, headaches usually occur in the temperal region, vasomotor disturbances, swaying sensations, dizziness, hyperchondrial tendencies, and neurasthenia. With these may be associated symptoms which are often difficult to differentiate from appendicitis and gall tract lesions, more particularly if there is traction involving the gall tract and liver. This at

times causes considerable pain, which is referred to the shoulder and back.

CASE REPORT.

The case we are dealing with in this instance falls in the class of obstructions resulting from adhesion between the gall bladder and the second portion of the duodenum.

Mr. L. B., age 40, occupation farmer, gives a history of the usual diseases of childhood. Appendectomy seventeen years ago. Eight to ten years later developed symptoms of a gall tract infection. Cholecystotomy was performed in 1921 with considerable relief of symptoms for about one year, when he developed a gripping pain and burning sensation in the mid-epigastrium and gall bladder region, having no relation to the diet, except that it usually increases in severity about thirty minutes to one hour after meals; is made worse by exertion, patient sleeps well, feels very comfortable in the early morning; but after eating soon experiences a heavy and uneasy sensation in the epigastrium, excessive gas, sour eructations, when pain becomes severe often feels nauseated, nothing relieves the condition except vomiting or lying down, at which time he frequently has a sensation of something breaking loose and gurgling sounds in right sub-costal region, appetite is good, but he has noticed in the past two years that he has been able to eat and drink large quantities. He complains of being tired, weak, dizzy, headaches in frontal and temporal regions. During severe attacks often has pain in right thoracic region and palpitation. Bowels are costive; no diarrheal attacks, but purgatives improve his condition for short periods. Has noticed some mucus in stools in past few months, no blood. Laboratory reports: Ewald test breakfast: practically entire quantity returned, watery, chymification poor, Hcl. 42; total acidity 54. Motor Test Meal: given at 10 P. M. withdrawn at 8 A. M. shows no retention; hydrochloric acid 60; total acidity 67. Wassermann reaction negative. Hemoglobin 85%; blood counts are within normal limits. Urine is without noteworthy features except a four plus indican content. Feces: constipated type; occult blood positive, yeast two plus; negative for ova and parasites. Physical examination: tall, well developed, fair nourished. Lungs: expansion poor; otherwise negative. Heart: extends to left Mammary line, sounds are distant but no murmurs. Blood pressure 110-76. Abdomen: operative scar in right hypochondriac region; some tenderness and rigidity in the epigastrium and right hypochondrium. No masses palpable, excessive gas. Epitrochlear glands enlarged. Tongue: coated. X-ray report shows an atonic stomach enormously dilated. The

greater curvature extending below the crest of the ileum. Duodenum is fixed to the right of the median line with a persistent deformity. Three-hour observation shows a practically complete retention of the barium meal. Six-hour observation shows a retention of approximately three-fourths of the meal. At twenty-four hours the stomach is entirely empty, but there is ileocecal and colonic stasis.

The patient came to operation with a diagnosis of gastric dilatation, duodenal obstruction, adhesions. The operative findings showed the gall bladder distended, thickened walls, and evidences of a chronic cholecystitis, with dense adhesions extending to the second portion of the duodenum, binding it down until it was believed inadvisable by the surgeon to attempt to break these loose. A posterior gastro-enterostomy was done, with an enterostomy three inches below the gastric opening by means of a Murphy button. The case did well up to the third post-operative day, when he developed evidences of a paralytic ileus, vomiting some blood and excessive quantities of bile. On the seventh day the patient was opened again and a gastrotomy was done, but continued to lose ground, and died the following day.

COMMENT.

A study of the above case presents a condition which may at times follow surgery in the upper abdomen, more frequently in the instance of frankly infected gall bladders, when this focus is not entirely removed.

The process is often of a much milder type than the one presented here, but if it is sufficient to produce a partial retention, or a delay in the passage of duodenal content for hours, it will certainly give rise to a series of toxic symptoms, which are in sharp contrast to those produced by the more mild poisoning in simple gastric retention of stasis in the lower tract.

DISCUSSION.

Dr. S. K. Simon: This is a very interesting clinical case Dr. Browne has reported, from various angles. Here was a man who had been operated on for gall tract lesion, and one year following operation began developing pronounced abdominal symptoms. The point of chief interest in the history was that the pain in the right hypochondriac region was relieved temporarily by lying down. The moment he sat up he began having pain again. He also said that no matter how badly

he suffered in the evening, on awakening the following morning he felt well. Symptoms came on within one hour after breakfast and persisted throughout the day. He was a farmer, and he said when the pain came on he would lie down in the field for about 30 minutes and his pain would be somewhat relieved. That gave us the first inkling there was some other feature connected with the case.

A motor test meal showed an emptying of the stomach within 12 hours. This was out of line with the X-ray finding of an enormously dilated stomach. In that case, the stomach should have shown at least a 24-hour retention. Here was a man who showed not only that motor meal emptied in 12 hours, but barium was out of the stomach within 24-hour period, as Dr. Samuel has demonstrated. We disagreed slightly with Dr. Samuel, and Dr. Browne and I, after reasoning the case out carefully, concluded that the obstruction was not at the pylorus, but was further down in the duodenum. Our reasoning from the clinical viewpoint was that the 1st and 2nd portions of the duodenum was the area involved. The patient had had a gall bladder operation and it was very reasonable to conclude that adhesions had formed about the gall bladder and duodenum with bands extending down to 2nd portion, when the patient stood up the food swung, as a hammock, over the band of adhesions. When he lay down it relaxed the band, and he was relieved as the contents emptied through. Some of the side angles and views, besides the mechanical features, brought out the fact that the patient was toxic. He was much more toxic than one would expect from simply a gastric dilatation. He was unusually fatigued at all times, and unable to carry on any work at certain parts of the day. He suffered with headaches, dizziness, and as Dr. Browne relates, var-

ious other toxic conditions. This could not be explained on the basis of gastric dilatation. They do not suffer very materially with toxic symptoms. In duodenal dilatation there is the toxic feature added, which experiments have shown is due to absorption of chemical matter through the duodenum.

At the operation, we were able to see the very marked adhesions between the duodenum and gall bladder with the band of obstruction at the second portion of the duodenum. The case was ante-mortem diagnosed on the operating table, and the condition as we reasoned it out, proved itself. Unfortunately the patient succumbed. We were unable to obtain post-mortem. Therefore, we had to content ourselves with the operative findings to substantiate the diagnosis.

Dr. Allan C. Eustis: One feature of the case struck me especially; we usually associate dilatation of the stomach with achylia; but the relative high free hydrochloric acid in this case would be in favor of Dr. Simon's original diagnosis of obstruction rather than any intrinsic disease of the stomach.

Another point of interest is the relief this patient obtained while in the recumbent position. This recalls to my mind practically every case of chronic gall bladder disease I have seen in recent years with adhesions and pylorospasm have been instructed to lie on the right side for one hour after each meal. For those cases who refuse operation, as a clinical procedure, I think you would find it of great value if you have these patients lie on their right side for one hour after each meal. The pull on the gall bladder will be relieved by this simple method and it is often surprising how much more readily the stomach will empty itself.

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THE HOSPITAL ABUSE LAW.

The bill intended to diminish the abuse of our two State general hospitals, passed both in the House and Senate by an overwhelming majority, has doubtless been signed by the Governor as this is being printed, for his excellency promptly saw the necessity for the correction of the abuse and favored the enactment of proper legislation. The measure was endorsed by the State Medical Society, the Orleans Parish Medical Society, the Staff of the Charity Hospital, the authorities of the Shreveport hospital and of the New Orleans Charity Hospital, the latter institution differing merely as to the penalty to be imposed for violation of the law.

The official figures presented uncontrovertible evidence as to the existence of the abuse and the necessity for its correction.

As usual, the medical profession in its fight for the right was handicapped by the age-old insinuation of self-interest, but it was so clearly shown that the whole public, and especially the deserving poor, were suffering far more than the doctors from the existing unfortunate situation that the old cry lost the weight it had carried heretofore.

We believe that even the proponents of the bill perhaps do not fully realize the importance of the fight they have won and of the legislation they have secured. For the first time the State itself has spoken and cleared the doubt caused by various and different rulings as to the right of admission into its hospitals. Through its General Assembly it has declared that its charity hospitals were intended for the poor and has instructed their Boards of Administrators to take the action necessary to limit its service of these hospitals to the needy, aside from emergencies of course.

Great credit is due to all those who gave unstintingly of their time and energy to the good cause and there is glory enough for everybody in the success achieved, hence, we shall mention no names, but surely the tax-paying public and the medical profession should not miss any opportunity of showing their appreciation to the deserving ones.

HELP FOR THE DOCTORS.

In a recent editorial appearing in *The Saturday Evening Post* we read that "the Medical Society of the County of Kings, Brooklyn, one of the oldest in the country, has just established the interesting precedent of admitting laymen to associate membership. The avowed reasons for this novel departure are that the inclusion of influential citizens would create friends of medical progress and enable the public to

assist the profession in its efforts to restrain unqualified practitioners and prevent employment of harmful methods. Whether or not this plan will work out as effectually as its sponsors hope still remains to be seen. In the meantime it can scarcely be regarded as anything but a step in the right direction.

"There are other fields than that of popular medical education in which laymen can do much to further the efforts of physicians. Thousands of lives and vast sums of money are annually exacted as tribute to unscrupulous nostrum venders. There are dozens of so-called consumption cures and cancer cures which do a tremendous amount of harm owing to the fact that faith in them keeps persons away from competent practitioners until it is too late to save their lives. There are means of coping with this growing evil, but they are in the hands of legislators and business men and not in those of doctors.

"There is another matter in which physicians stand in grave need of the co-operation of the lay public. Compulsory vaccination laws are under fire. Bills have been introduced in state legislatures which, if they became laws, would prevent diphtheria anti-toxin and most other biological products which play so large a part in modern medicine.

"If the comparative inactivity of physicians and men of science is a trustworthy index of their reaction to these attacks, even they do not perceive the reality of the menace which threatens their calling and all the millions whose lives depend upon it free and proper exercise. Unless the situation is promptly and vigorously taken in hand it will inevitably become worse before it can become better."

SYPHILIS AND HEART DISEASE.

The relation between syphilis and cardiac disease was discussed at the recent sessions of the Imperial Social Hygiene Congress (British) by Colonel Sir Leonard Rogers,

representing the Government of India. He said that practically the whole of heart disease in India was due to syphilis and concluded that the eradication of it would reduce heart trouble there to negligible proportions.

In this connection it might be observed that India is not alone in recognizing the great socio-economic problem of controlling syphilis. The United States Public Health Service has recently issued a compilation of abstracts relating to visceral syphilis for use in its co-operative work with the State departments of health in the control of venereal diseases. These abstracts reflect the causative influence of syphilis in diseases of the heart, aorta and peripheral blood vessels. Special attention is being given in all countries to the prevention of these diseases by prompt adequate treatment in the early stages of syphilis before the heart and blood vessels become involved.

NEW CONVENTION IDEA.

A new style in conventions is developing, according to Edward Eyre Hunt, conference and convention expert of the United States Department of Commerce.

Instead of meeting in large cities, where attendance at sessions is often reduced because of giddy urban distractions, wise convention managers, Hunt finds, are now arranging their gatherings for places where a maximum of rest and wholesome recreation may be combined with the actual work of the conference.

"The present tendency," Hunt says, "is to lengthen the convention period, condense the actual business to be considered into as few meetings as possible, and above all to plan the work of the convention so there may be a sound combination of work and recreation."

Under this new conception of the ideal environment for conventions, industries and organizations that work out their prob-

lems through periodic conferences are, more and more, scheduling their meetings for resorts where golf, tennis, riding and other sports may be indulged in by members between sessions. At such places facilities for the meeting are to be found as adequate as exist in most large cities, while the opportunities for developing real acquaintanceship among the members and a spirit of fellowship are infinitely increases.

Hunt cites as an instance of the new idea in conventions the coming meeting of the Society of Automotive Engineers, 1000 strong, at French Lick Springs, Ind., where golf courses, tennis courts, riding stables, and other facilities for recreation are at hand.

In a large city, the delegates to a convention of this size would be scattered through many hotels. At French Lick they will all be quartered under the roof of Tom Taggart's big French Lick Springs hotel. No time lost, no taxi fares wasted attending sessions. When sessions are adjourned, the choice of rest or play without loss of time, effort or cash.

"Improved facilities for conventions and conferences, such as provided at French Lick and a few similar resorts," Hunt says, "have been set up for its own use by the General Electric Company, on an island it owns in Lake Ontario. This island has been named 'Association Island.' Separate meetings called 'camps,' are held here each summer for the sales force, engineers, manufacturing division and other groups of company representatives.

"These camps," Hunt says, "are genuine clearing houses of ideas. They also serve to bring about friendships and acquaintanceships that could not be developed at ordinary conventions."

At the old-time convention, working by day and playing by night, the windup often found half the members in need of rest and repairs. The new scheme, rapidly becoming

a fixed order, reverses the order of business to a large extent, and is designed to leave everybody fit and fine at the finish.

A short morning session is held, from 9 or 10 to 12. Then adjournment is taken until evening, leaving the members free to play golf, ride horseback, go on hikes through the hills, take the baths, or otherwise divert themselves. Another session in the evening, to which everyone comes refreshed and rested, completes the day. No evening sessions run later than 10 o'clock. That gives everyone time for a full night's sleep and gets him up the next morning with a clear head and plenty of pep.

Which, everyone will admit, is something new in the line of morning-after-convention feeling!

CATTLE TUBERCULOSIS RAPIDLY REDUCED BY AREA PLAN.

Carrying the campaign of eradicating animal tuberculosis to areas where it is very strongly entrenched is one of the newer developments in the nation-wide program to rout the disease. A survey just completed by the Bureau of Animal Industry, United States Department of Agriculture, shows the aggressive action taken by many counties.

The eradication of tuberculosis under the "area" plan is now being conducted in 34 of the 98 counties having more than 15 per cent of tuberculosis infection among cattle, and in 54 of 165 counties containing cattle that are tuberculous to the extent of more than 7 per cent but not more than 15 per cent. Thus, about one-third of the most badly infected counties have eradication work under way. Two of the counties, formerly very seriously affected, have already reduced the infection to 0.5 per cent or less and are in the "modified accredited area" class.

There are 241 counties in the country where tuberculosis among cattle exists to the extent of more than 3 per cent and up to 7 per cent. Of these counties 93 are

conducting area work to eradicate the disease and 8 of them already have qualified as modified accredited areas. The work is also going forward rapidly in the more lightly affected areas where sentiment strongly favors eradicating the disease before it becomes more serious. At the beginning of 1926 the list of modified accredited areas totalled 149 counties, thus indicating excellent progress toward the conquest of the disease.

NEWS ITEMS.

On page 75 of this issue Dr. Ullman, our associate editor for Mississippi, makes a plea for more hearty co-operation on the part of county secretaries in furnishing *The Journal* with monthly items of news. We feel sure that Mississippi will respond to the urgent request of Dr. Ullman for the

necessary material in order that this department of our publication will serve a real purpose in keeping the physicians in our neighbor State posted on all matters of medical interest. Practically, it becomes an impossibility for an associate editor to do justice to the organization he aims to serve if the necessary support on the part of district society secretaries is withheld. This applies equally to the parish societies of Louisiana. We feel that our State Society News sections can only be made interesting and worthy of attention if each parish society representative will promptly report to us on their scientific gatherings, hospital staff meetings, and any other items of interest. In passing the Editor might say that all such news items should be in our hands by the twentieth of the month preceding publication date.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

ORLEANS PARISH MEDICAL SOCIETY TRANSACTIONS.

During the month of June the Board of Directors held one meeting. There has been one Joint Clinical Meeting of the Orleans Parish Medical Society with the Charity Hospital Staff, and one Scientific Meeting of the Society.

The Board of Directors still has under consideration the proposed revision of the By-Laws and as only a part of this revision has been gone over it is probable that this matter will not be brought to the vote of the General Body until the coming fall.

Dr. W. W. Calhoun has been elected to Active Membership.

Drs. J. M. Donald, W. V. Garnier, M. W. Hunter and H. H. Winters have been elected to Interne Membership.

The vote on the proposed purchase of a domicile site has finally been closed with 227 members in favor of this purchase and 80 members against this purchase. As the actual authorization of this purchase must come from the Society in meeting assembled a resolution for such a purpose has been introduced at last Scientific Meeting held June 28th, 1926.

At the Scientific Meeting held June 28th the following papers were presented and discussed:
"Multiple Carpo-metacarpal Dislocations with

Report of a Case.".....
By.....Dr. Waldemar R. Metz

Discussion opened by Dr. O. C. Cassegrain

"The Ethmoid and Sphenoid as Sources of Focal Infection Usually Overlooked".....
By.....Dr. Amedee Granger

"A Plea for Complete Examination in Hematuria".....
By.....Dr. P. Jorda Kahle

To open Discussion.....Dr. W. A. Reed

"Yatren in the Treatment of Amebic Dysentery." A Preliminary Note
By Invitation: Drs. R. H. Turner and P. H. Jones

To open Discussion.....Dr. F. M. Johns

Dr. H. S. Cocram retiring from Active Practice has resigned as an active member of this Society. His name has been proposed for Honorary Membership.

The Hospital Abuse Bill introduced in the House by Mr. John Dart and sponsored by the Orleans Parish Medical Society through its Hospital Abuse Committee has been passed by both the House and the Senate and awaits only the Governor's Signature for its adoption as a law. The Hospital Abuse Committee, Dr. A. E. Fossier as Chairman, deserve considerable credit for its efforts and perseverance in having the bill passed by both the House and Senate.

The following is a letter from the New Orleans Medical and Surgical Journal which is self-explanatory:

June 3rd, 1926.

*Dr. H. Theodore Simon, Secretary,
Orleans Parish Medical Society,
1551 Canal Street,
New Orleans, La.*

Dear Doctor Simon:

According to the recent ruling of the Journal Committee, I take this opportunity to inform the Orleans Parish Medical Society that from this date on, the expenses for the making and publishing of cuts will be borne by the Journal Committee, up to and including seventy-two square inches of cut space. According to the average size of cuts, this will give the essayist and opportunity to have about six cuts in his paper.

We hope that this decision of the Journal Committee and the remission of this paragraph of our contract relating to cuts will meet the approval of the Orleans Parish Medical Society. In view of the fact that the contract specifically states that we are to charge for cuts, we would be pleased to have from you the approval and understanding of the above change.

Yours very respectfully,
(Signed) P. T. TALBOT, M. D.,
General Manager.

The Membership of the Society is 484.

REPORT OF TREASURER FOR MAY.

Actual Book Balance 4/28/26	\$3,485.45
Receipts during May	333.40
Total receipts	\$3,818.85
Expenditures	659.11
	<hr/>
	\$3,159.74
Outstanding checks	54.00
	<hr/>
Bank Balance: 5/31/26	\$3,213.74

REPORT OF LIBRARIAN FOR MAY.

The reference work has been steady during the month. It is gratifying to report that there is an ever-increasing number of new patrons among the library clientele. Five bibliographies have been prepared on subjects as follows:

Carcinoma of Appendix (1918-25)

Tuberculosis of Appendix (1918-25)

Primary Sarcoma of the Spine

Puerperal Infection, 1923-25 (material in O. P. M. S. Library)

Puerperal Infection, 1923-25 (not in O. P. M. S. Library)

22 volumes have been added to the Library—of which 3 were received by gift, 4 by purchase, 4 by subscription and 11 from the New Orleans Medical and Surgical Journal. A list of accessions is as follows:

International Clinics, 1922, v. 1-2.

International Clinics, 1925, v. 1-4.

American Surgical Association Transactions. 1925.

Medical Interpreter, v. 8. 1926.

International Medical Annual. 1926.

Mississippi State Medical Association Proceedings. 1925.

Chicago Municipal Tuberculosis Sanitarium Report. 1925.

Rockefeller Foundation. Annual Report. 1925.

Pharmacopeia of the U. S. 1925.

Bourne—Recent Advances in Obstetrics and Gynecology. 1926.

Craig—Parasitic Protozoa of Man. 1926.

Johnson—60 Years in Medical Harness. 1926.

Hansen—Investigation on the Blood Sugar in Man. 1923.

Kato—Further Studies on Decrementless Conduction. 1926.

Mayo Foundation—Lectures on Nutrition. 1925.

Stewart—Skull Fractures. 1925.

Lilienthal—Thoracic Surgery. 1925. 2 v.

On May 29th, a large number of journals were received by gift from Dr. Oechsner. Many of these filled gaps in our files and others will be used in exchange with other libraries. Dr. W. H. Block also donated journals during the month. The Library is always glad to receive gifts of journals whether new or duplicate of those already in our collection, and we would be glad if the practice were more general. We are always happy to send for donations.

H. THEODORE SIMON, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY

H. Theodore Simon, M. D., Associate Editor.

TUBERCULOSIS AND PUBLIC HEALTH ASSOCIATION OF LOUISIANA.

Room 14, 535 St. Charles St.,

New Orleans.

The new colored tuberculosis sanatorium in Shreveport was formally opened Sunday, May 23rd. This building will care for 50 patients and is in charge of Dr. Chas. R. Gowen, Medical Director of "The Pines." Colored physicians from Shreveport also assist. The building is modern in every respect and thoroughly equipped to give adequate care to its patients. Appreciation for the work done by Dr. Gowen, and Mrs. Meyer Benson, president, since the erection of both the white and colored "Pines" in Shreveport, was evidenced by the devotion and praise given them on the occasion of the dedication of the new colored building.

The Baton Rouge Chapter of the American Red Cross have a blue print map showing tuberculosis statistics which they have accumulated in the past three years from cases contacted by their workers. Pins of different colors are used to designate lost, active and hospital cases.

Ouachita Parish is interested in having a tuberculosis camp. Plans are now being formulated and we hope to be able to report progress in a later issue.

During the present school term, Ouachita, Washington and Tangipahoa parishes had the Modern Health Crusade in operation in one or more of their schools. This means that many children in Louisiana are learning systematic health habits and will be better able to combat disease by thus building a stronger resistance to all forms of germ life. We hope the next school term will find many more parishes engaged in this splendid health movement. We look to our parish groups and committees to promote this work. "Health Training in Schools," by Theresa Dansdill is a wonderful handbook and should be in the possession of every teacher and health worker in the State. Write to us for literature on the Crusade and for descriptive circular of the handbook.

We will be glad to receive from our readers and others, any material of interest which we may include in a later number of our bulletin. We ask our parish units to contribute to this source.

The annual meeting of the National Tuberculosis Association will be held in Washington, D. C., October 4th to 8th, following the meeting of the International Union Against Tuberculosis, which

is to be held in Washington, September 30th, October 1st and 2nd. The National Association selected its meeting date to conform to the International Meeting, so as to permit of a joint session, thereby including in its program the leading tuberculosis experts of various European countries. The International Union is limited in attendance only to members of the Union. Fee for membership is \$2.00. Further information about either meeting may be obtained from the National Tuberculosis Association, 370 Seventh Avenue, New York City.

We are informed by the National, that the new directory of Tuberculosis Sanatoria and directory of Tuberculosis Associations, will shortly be ready for distribution. Let us have your order at \$1.00 for the Sanatoria Directory and 50c for the Directory of Tuberculosis Associations.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and in Shreveport, May 3-4, 1926.

The successful applicants are:

Ida Dorothy Achee, Edna Benker Amann, Alice Patricia Bacon, Rolena Baird, Florence Irene Balshaw, Elsie Gladys Barnes, Thelma Elizabeth Baye, Rose Benenato, Gertrude Elizabeth Beville, Elsie Bond, Theo Ettie Brooks, Nellie Lucye Burton, Ophelia Marie Cointment, Annie Mae Cooper, Anna Lee Copeland, Irene Catherine Crouch, Willie Mae Cummings, Marcelle Esther Dansereau, Myrtle Laura Daspit, Neige M. Daspit, Louise Crinsoz de Cottens, Wesley Duty, Alice Irene Ellis, Mary Veronica Fannaly, Pearl Rose Fields, Madeline Pauline Finale, Esther B. Fitzgibbons, Virginia Galmiche, Edna Blanche Gandy, Lillian Mary Gebbs, Leonora Graves, Jessie Carolyn Hammack, Edna Posey Harrison, Daisy Allene Harwell, Daisy Beatrice Hayden, Gladys Stone Hession, Omega Rhea Idom, Karen Johanne Mathilde Pedersen Jacobsen, Louise Marie Otell Jones, Florine Tassin Julier, Helen Elizabeth Kopperl, Eleanor Pearl Lee, Lillie Helen Liebe, Elise Agnes Stehr Luttgeharm, Phoebe Antoinette McCrea, Mary Bell Malloy, Zennia Bailey Monce, Vivian M. Sicard Musso, Ollie Bee Netterville, Emma Lucille Paige, Amelia Parker, Maida Perrett, Myrtle Alma Pool, Willie Parish Roan, Myrtle Emily Rose, Sister Alphonsine Casey, Sister Anna Holland, Sister Dominica Malley, Sister Martha Schoenfelder, Sister Gonzaga Wall, Sister Mary Callista Young, Jennie Silverman, Temple Izora Stacy, Elizabeth Stalsby, Sallye Woodward Stewart, Delphia Alma Sumter, Ada Lucile Thompson,

Texas Earl Wright Wiegman, Lydia Williams, Eleanor Genevieve Wilson, Claire Marie Wogan, Frances Marian Bass, Ruby Alma Barfield, Frankie Elizabeth Beck, Agnes Benoit, Eunice Catherine Brabham, Thelma Juanita Broberg, Hattie Bell Combs, Bonnie Marie Culp, Edna Mae Friedlander, Bernice Fulton, Enes Johanna Hollander, Daisy Hollier, Ida Mae Ivey, Eulalee Munholland Kirsch, Agnes La Borde, Hilda La Vergne, Irene McCraine, Florence G. Marshall, Phenie James, Thercie James, Blanche Una Newsom, Marie Aurelia Orio, Mary McBride Rose, Genevieve Saizan, Louise Robinson Schneider, Annie Laurie Sheffield, Norma Lucile Verlaque, Alice Vigo, Myrtis Nora Wooley.

PRIZE THESIS CONTEST.

The American College of Physical Therapy announces a Prize Contest, subject to the following rules and conditions:

Eligibility—This contest is open to Licensed Clinicians, Physicists, and Fourth and Fifth Year Medical Students from recognized medical schools.

Subjects—The subject must be on some branch of physical therapeutics embracing Galvanism, Diathermy, Radiant Heat-Light, Ultraviolet Light, X-rays, Radium, Hydrotherapy, Exercise.

Scope—The paper must be limited to 2,000 words or less, and must involve some problem of research, laboratory or clinical, pertaining to closely allied or actually on physical therapeutics. A short abstract of 200 words or less should accompany all papers, which are to be typewritten on one side of paper only and double spaced.

Time—All Theses must be submitted to the Chairman of Thesis Committee, Dr. D. Kobak, 30 North Michigan avenue, Chicago, not later than August 15, 1926.

Judges—The judges will be selected from the faculties of several medical schools, and will be men who are not connected with the college.

Prizes—There will be six prizes (physical therapy equipment) the total value of which will exceed \$2,500.

Announcement of winners will be made at the Clinical Congress to be held at the Drake Hotel, Chicago, October 18th to 23rd, 1926. The winning papers will become the property of the College and will be published in its official journal.

THE AMERICAN COLLEGE OF PHYSICAL THERAPY.

THE HIGH COST OF CHILDREN.

It costs about \$6,150 to bring up one child from, and including, birth to the age of 18, according

to the Metropolitan Life Insurance Co., which is making a series of studies on "the value of man" based on the approximate expenditures in dollars and cents for a growing child during the non-productive period of life.

This total is reached by adding to the initial "cost of being born," estimated at \$250, the sums of \$2,500 for food; \$1,620 for rent, reckoning the share of the child as one-sixth of the total so expended; \$300 for fuel and light, \$351 for furniture and household maintenance; \$144 for first cost of installation of the home; and for clothing, \$912 for a boy and \$1,002 for a girl.

CHILDREN'S CLINIC, UNIVERSITY OF VIRGINIA.

Nearly 1,000 children already are on the lists of the general child welfare clinic recently organized in connection with the pediatric department of the University of Virginia Hospital to serve the needs of the people of the mountainous section of Western Virginia and to provide a laboratory for the teaching of pediatrics to nurses and medical students. The department of psychology of the University will superintend the giving of mental tests and the department of anatomy and anthropology will study the national and racial characteristic of the patients of the clinic. The expenses of the first three years have been provided by private subscriptions and by a grant from the Commonwealth Fund.

ANTI-TUBERCULOSIS CAMPAIGN, MASSACHUSETTS.

Reporting progress in the 10-year program for the control of tuberculosis in children begun in 1924, the Massachusetts Department of Public Health states that 10,000 white children between 5 and 15 were examined during the first year at clinics held in 43 cities and towns. Approximately 29 per cent of the children reacted to the tuberculin test, 28 per cent gave a history of exposure to human tuberculosis, 25 per cent of these being cases of immediate contact with the disease, and 15 per cent of the rural children gave a history of contact but did not react to the test. Among other defects discovered and treated were enlarged and diseased tonsils and adenoids in 31 per cent of the country and 26 per cent of the city children; poor posture in about 60 per cent of all the children, and valvular heart disease in 1.7 of both groups. Re-examination of some of these children during the present year indicates that through the co-operation of the local communities, physical defects are being corrected and underweight is already being lessened.

CHILDREN DRINKING TEA AND COFFEE.

Large numbers of children are drinking tea and coffee every day, in spite of the practically unanimous opinion of the medical profession that these stimulants are harmful to children, according to facts secured from medical specialists by Dr. Robert Roy Irvin and reported in the *Medical Journal and Record* (New York).

PUBLIC HEALTH, RUSSIA.

Three hundred and ninety-five million gold rubles for public health work during the current fiscal year is provided for in the budget of the Union of the Soviet Socialist Republics and those of the federated states, according to *Isviestia* of Moscow. This sum is twice as large as that provided in 1923-24. *Isviestia* further reports the establishment in Ukrainia in 1925 of 24 infant consultations in cities, 177 in rural districts, 60 day nurseries in cities, 324 in rural districts and 18 milk kitchens. In Kharkov, Kiev, Odessa, and Ekaterinsolav, day nurseries were established for the care of children of university students.

CHILD HEALTH, SWITZERLAND.

Swiss children, in addition to their regular prescribed class work in gymnastics, are to be given by their teachers as much opportunity as possible for exercise and play, long walks and excursions being recommended in detailed regulations for the protection of the health of school children recently issued by the government of the canton of St. Gall. Much emphasis is placed by the regulations on the proper construction of school benches, adequate lighting and proper posture, the teachers being required to watch the children's posture and amount of clothing worn, and also to take preventive measures against colds and overstrain.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examinations:

JUNIOR MEDICAL OFFICER (INTERNE).

Applications for junior medical officer will be rated as received until August 31. The examination is to fill vacancies in Veterans' Bureau Hospitals and Diagnostic Centres, and in positions requiring similar qualifications.

The entrance salary for this position in the field service of the Veterans' Bureau is \$1,860 to \$2,400 a year without allowances, or \$1,260 to \$1,860 a year with quarters, subsistence and laundry, the entrance salary within the range stated depending

upon the qualifications of the appointee as shown in the examination and the duty to which assigned. Those who show only the minimum qualifications for admission to the examination will be eligible for appointment at the minimum salary only. To those whose services are satisfactory, and in the discretion of the appointing officer there may be granted a salary increase of not more than \$600 a year at the end of the six month's probationary period required by the civil service rules, and at the end of eighteen months the salary of \$3,300 a year, without allowances, may be paid in the discretion of the appointing officer and subject to the existence of vacancies.

The duties, under immediate supervision, are to admit patients, take histories, make physical and mental examinations and record findings; to make ward rounds of inspection, note charts, record observations; to prescribe for minor ailments or for acute or emergency cases and to dispense medicine in emergency; to perform minor surgical operations and to assist at major operations and in redressing; to administer anaesthetics; to make routine laboratory tests and analyses; to assist at out-patient clinics in dressing and in administering vaccines; to keep records, make up case histories, answer correspondence relating to patients and compile statistics requiring medical training.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

SENIOR MEDICAL TECHNICIAN (PATHOLOGY).

Applications for senior medical technician (pathology) must be on file at Washington, D. C., not later than July 13. The examination is to fill a vacancy in the Surgeon General's Office, War Department, Washington, D. C., and vacancies occurring in positions requiring similar qualifications.

The entrance salary is \$1,860 a year. After the probational period required by the civil service act and rules advancement in pay without material change in duties may be made to higher rates within the pay range for the grade, up to a maximum of \$2,400 a year. Promotion to higher grades may be made in accordance with the civil service rules as vacancies occur.

The duties, under direction, are to dissect, prepare, describe, and classify histological and pathological specimens and arrange such materials for sectioning, study, and display; to do research work in technical methods; and to perform related duties as assigned, including assisting in autopsies.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of U. S. Civil Service Examiners at the postoffice or customhouse in any city.

MAIL DIRECTORY INFORMATION CARD PROMPTLY.

During the month of June, every physician in the State should have received a Directory information card. Every one is urged to fill out and return the stamped card regardless as to whether he or she has changed their residence or office address.

This information will be used in compiling the Tenth Edition of the *American Medical Directory*, now under revision in the Biographical Department of the Association. The Directory is one of the altruistic efforts of the Association and is published in the interest of the medical profession which means ultimately in the interest of the public. It is a book of dependable data concerning the physicians and hospitals in the United States and Canada.

THE CHIROPRACTIC BILL.

The Louisiana State Medical Society was successful in defeating the Chiropractic Bill before the Senate Committee on Public Health and Quarantine on June 1st.

Dr. C. C. Bass, Dean of Tulane Medical College, Dr. W. H. Seemann, Delegate to American Medical Association and Professor of Hygiene at Tulane Medical College; Dr. S. M. Blackshear, President of Louisiana State Medical Society; Dr. B. A. Ledbetter, Chairman, Committee on Public Policy and Legislation; Dr. P. A. McIlhenny, Professor of Clinical Orthopedics and Surgical Diseases of Children; Dr. L. J. Menville, Chairman, House of Delegates, Louisiana State Medical Society, all spoke against the bill in behalf of the Louisiana State Medical Society before the Committee.

The success of our accomplishments was due to the co-operation of the State Board of Medical Examiners, Orleans Parish Medical Society and

the Louisiana State Medical Society. There was a large delegation of physicians from all parts of the State in attendance as follows:

Drs. B. A. Ledbetter, S. M. Blackshear, E. Denegre Martin, P. A. McIlhenny, C. C. Bass, J. A. Danna, C. V. Unsworth, W. H. Seemann, Chas. Gelbke, L. J. Menville, E. L. Leckert, F. M. Johns, A. A. Herold, Marvin Cappel, R. O. Simmons, J. A. Knighton, C. A. Weiss and P. T. Talbot.

The vote of the Committee was 7 to 1 against the bill. This subject was subsequently introduced in the House of Representatives.

Subsequent to the above appearances this bill was introduced by Judge Sorelle in the House. Upon the hearing before the Committee on Health and Quarantine, the bill was reported unfavorable by a 6 to 2 vote. Representative L. D. Jones and J. J. Meredith voted in favor of the bill. Chiropractors of the state staged another big rally before the House Health and Quarantine Committee when the bill giving the practors state recognition and the creation of a board was considered. The arguments pro and con lasted until after midnight.

A similar bill, that of Senator Homer Barousse, was killed in the senate the week before.

Among the advocates of the bill assembled were: Donelson Caffery, attorney for the order; Dr. W. W. Fife, Gus Oertling, G. L. Deano, J. H. Stafford and wife; Mrs. O. W. Chamberlain, Miss Anna Lincks, Mrs. Joie Englehart, Miss Mamie Englehart, Mrs. Crawford, Messrs. Templeman and Nelson Burrell.

The medical profession was solidly arrayed against the bill. Among those present were: Dr. Blackshear, president of the Louisiana State Medical Society; Dr. R. B. Harrison, Secretary, State Board of Medical Examiners; Dr. T. E. Wright of the legislative committee, Monroe; Dr. J. A. Danna, Dr. B. A. Ledbetter, Chairman of the Legislative Committee; Dr. E. L. Leckert; Dr. W. H. Seeman, state and city bacteriologist; Dr. Marvin Cappel, coroner of Rapides, Alexandria; Dr. Charles F. Gelbke, Gretna; Dr. C. A. Weiss, Baton Rouge; and T. Semmes Walmsley, representing the medical societies.

MISSISSIPPI STATE MEDICAL ASSOCIATION

J. S. Ullman, M. D., Associae Editor.

To the Members of the Mississippi State Medical Association:

For more than a year past we have endeavored to conduct a column that would be of interest to the doctors of Mississippi. It has been our policy to tell the news of the societies, of the various hospitals and of the individual doctors. It must be obvious to you, however, that it is absolutely impossible for anyone to glean the various items of interest by himself. Doctors are naturally modest creatures and many an activity of theirs that would be of much interest to some professional friend does not get into the public print. It is therefore earnestly and urgently requested of the various society secretaries or reporters that they keep notes of happenings when they occur so that when the time comes to send their contribution in to the Mississippi editor they will not have to rack their brains to think of something to say.

To the individual members of the society, the suggestion is made that anything of interest coming to the knowledge of any doctor be sent in. This will be very much appreciated and welcomed by us.

This is not intended to be a one-man column but is being run for the doctors of Mississippi, and without their co-operation it cannot be run at all. Please get busy and start something.

Dr. Neill H. Buie, formerly of Eddiceton, Miss., has recently moved to Fayette, where he is now practicing.

At the last meeting of the State Medical Association at Jackson, under the guidance of Dr. George Atkins, of that city, the roentgenologists of the State met in order to organize a roentgenological society for Mississippi. Dr. Marcus Beekman, of Natchez, Miss., served as temporary chairman. A committee was appointed to draw up by-laws and a constitution and to consider ways and means to form a permanent organization next year.

Everybody who attended the Convention remarked on Jackson's hospitality. Too much credit cannot be given the members of the Central Medical Society and particularly their committee on arrangements for the splendid manner in which the meeting was conducted. "A good time was had by all."

Late on the afternoon of May 29th, 1926, Dr. D. C. Warren, of Union Church, Jefferson County, Mississippi, died. In his passing Southwest Mississippi lost probably her last practitioner of the old school.

Dr. Warren was always a courteous gentleman, a tried and true friend as well as a most successful physician. He was born in Jefferson County seventy-five years ago and was graduated at the Medical Department of Tulane University in the Class of 1876. He settled at Union Church and began practice there on the 17th day of March that year and has continued his work in the same place ever since.

He was married shortly after settling at Union Church to Miss Mary Inez Torrey. He leaves, beside his widow, three daughters, Mrs. Smiley, of Hazlehurst, Misses Lucy and Lottie Warren, of Union Church, and Dr. Geo. T. Warren, of Brookhaven.

The Central Medical Society met at 8 P. M., June 15, at the Elks Club in Jackson, Mississippi, with about 40 members present. The following program was presented:

1. The Cause and Treatment of Epistaxis.....Dr. T. E. Ross, Jackson
2. The Diuretic Action of Ammonium Chloride and NovasurrolDr. P. R. Greaves, Jackson
3. A Report of Some CasesDr. E. L. Green, Jackson
4. Business Session.
5. Adjournment.
6. Lunch.

Dr. T. E. Ross, President of the Mississippi Medical Society, will be present at the next meeting.

On June 27 the cornerstone for the new King's Daughters Hospital at Greenville was laid with impressive ceremonies under the direction of the Grand Lodge of Mississippi Masons.

President T. E. Ross, of the Mississippi State Medical Society, announces the following appointments:

Medicine—S. E. Eason, New Albany.

Surgery—John Darrington, Yazoo City.

Hygiene—D. J. Williams, Gulfport.

Eye, Ear, Nose and Throat—D. C. Montgomery, Greenville.

COMMITTEES.

Public Policy and Legislation—(Ex-officio, the President and the Secretary): I. W. Cooper, Meridian; Willis Walley, Jackson; F. J. Underwood, Jackson.

Publication—J. S. Ullman, Natchez; M. J. L. Hoye, Meridian; T. M. Dye, Clarksdale.

To Attend Teachers' Association—H. H. Ramsay, Ellisville; H. F. Garrison, Jackson; N. C. Womack, Jackson.

Hospitals—J. E. Green, Richton; W. H. Anderson, Booneville; H. A. Gamble, Greenville.

Scientific Work—W. H. Fritzell, Brookhaven; C. H. Ramsay, Collins; T. M. Dye, Clarksdale.

Medical Education—H. L. McKinnon, Hattiesburg; G. S. Bryan, Amory; S. W. Johnson, Vicksburg.

Necrology—C. D. Mitchell, Jackson; J. D. Donald, Hattiesburg; A. M. Harrelson, Stringer.

Budget and Finance—S. W. Johnston, Vicksburg; G. E. Adkins, Jackson; W. L. Little, Wesson.

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BOOK REVIEWS

Abdominal Operations: By Sir Berkeley Moynihan. W. B. Saunders Co. Philadelphia. 1926. Fourth edition.

It is almost sufficient to give the author's name for one to, almost with prejudice, form a favorable opinion of these two great volumes. Before reading them I had heard and learned much of the author's abilities; and during the course of the reading I have come to understand the reasons for the many favorable comments.

The fourth edition of this work is certainly a masterpiece on abdominal surgery—probably unparalleled in medical literature. The arrangement of the various topics, the masterly language employed, the easiness with which it can be read and enjoyed, as well as the excellent presentation makes one almost forget the drudgery of some of the literature through which we often attempt to wade. The most modern surgical opinions of the various subjects are presented in their fullest details.

In the first section the author presents the various matters that cannot too often be reviewed by the experienced as well as the novice. The pre-operative care, operative conduct, and after treatment are just a few of the many interesting and instructive subjects presented. In addition there are presented several other headings in this section that are very useful to the surgeon.

The entire second and third sections are devoted to operations on the stomach and intestines; whilst the fourth section discusses operations upon the liver; and the work is very appropriately concluded with the fifth section which considers the operations upon the pancreas and spleen.

I have never read a book so interesting, fascinating, and as instructive. It appeared to me that I was following Jean Valjean in Hugo's "Les Misérables" through his heroic adventures.

FRANK M. LORIA, M. D.

Practical Helps in the Study and Treatment of Head Injuries: By Adolph M. Hanson, M. D. Boston. Richard G. Badger. 1925.

This excellent monograph fulfills the promise given in the preface, of presenting in brief form, practical suggestions for the treatment of head injuries by the general surgeon. All of the essential points in anatomy are given in lucid language and with clear illustrations in abundance. This is followed by detailed descriptions of treatment, both medical and operative, of all types of cranial injury. The advice given in Chapter VI as to the

treatment of cases seen in shock, viz., by the administration of camphorated oil and strong black coffee, together with the application of heat, will not be universally followed. There are now too few advocates of stimulation, and too many that morphine and heat are sufficient. The question as to when to decompress and when to depend on spinal puncture for relief of pressure symptoms is still debatable, but one might well be guided by the principles outlined in this book. Taken all in all this is a useful book for the library of the general surgeon.

E. A. FICKLEN, M. D.

Manual of Parasitic Protozoa of Man: By Charles F. Craig, M. D. Philadelphia, J. B. Lippincott Company. 1926.

In this book Craig has presented all of the important features that are known regarding the morphology, life-history, relation to disease, prophylaxis and diagnosis of the more important protozoan parasites of man. A large part of the life work of the author has consisted in the study of the parasitic protozoa and this, with his characteristic, practical viewpoint, has eminently fitted him for the task of preparing an authoritative treatise on this subject.

All of the common parasites of man are considered and the known information about them is stated in a very definite and instructive way. A great many references are given for the benefit of those who may wish to go deeper into any particular subject.

The number of illustrations, a great many of which are original, is pretty large and they are well selected.

The present reviewer feels that this book is so complete and practical and that the subject is of such importance that it will be a necessary part of the working library of all practitioners and students of medicine.

C. C. BASS, M. D.

Non-Surgical Treatment of Diseases of the Mouth, Throat, Nose, Ear and Eye: By Thomas H. Odeneal, M. D. Philadelphia, P. Blakiston's Son & Co. 1926.

Written particularly for the beginners and the general practitioner—covers briefly though concisely the subjects named. The book is well worth reading by all regardless of branch or specialty pursued.

W. MARVIN JOHNSON, M. D.

Pharmacopoeia of the United States of America.

Tenth Decennial Revision (U. S. P. X.): By the Authority of the United States Pharmacopoeial Convention held at Washington, D. C., May 11, 1920. Prepared by the Committee of Revision and Published by the Board of Trustees. Philadelphia, J. B. Lippincott Company. 1926.

The tenth revision of the U. S. Pharmacopoeia is a volume smaller and more compact than the previous edition. It contains a number of changes to which it might be well to call the attention of the medical profession. In the first place, there has been deleted from this edition 190 preparations which were in the U. S. P. IX. These include 25 fluid extracts, 15 tinctures, 11 extracts and miscellaneous other preparations. Most of the fluid extracts, tinctures and extracts have been removed for the purpose of simplification, other preparations of the deleted forms of the drug remaining, although a few are drugs which are no longer considered useful. One of the popular, and useless, preparations removed is the glycerophosphates. Sumbul, zinc preparations and lithium preparations have also been removed. Cerium oxalate has been expurgated, and wrongly, we think. Cerium oxalate is an excellent gastric sedative when given in sufficiently large doses. The trouble with this drug is that the usual dose given is below a decigram, whereas the full dose should be 2 grams. Forty new articles have been added. These include such well known preparations as acid acetyl salicylic, arspenamin, barbital, carbon tetrachloride, epinephrine, chaulmoogra oil, phenosulphonphthalein, quinidin, whiskey, brandy, and thyroxin. Other additions include drugs less well known that have proved successful in the past few years.

Additional changes include new methods of biological assay and the making compulsory of biological assay of a number of important drugs and preparations. Microscopical description of powdered drugs has also been incorporated and after each drug or preparation of a drug the other preparations of that drug or chemical are indicated.

The metric system has been adopted throughout the work and very properly the monstrosity "mil" has been dropped and the universal term "cubic centimeters" has been employed. In conjunction with the use of the metric system, it might be stated that the apothecary system is mentioned when the average dose is given, the dosage being first given in the metric system and then the equivalent given in the apothecary system. Except for this one use of the apothecary system, this old-fashioned, clumsy and inefficient table has been abolished. In giving dosage, the compilers

state that the dosage is given as an average dose. It seems unfortunate that if such is the case the liquid preparations are not given as are the dry preparations, for the most part, in multiples of 5. Where the average dose is given as 4 c.c., it might just as properly be given as 5 c.c. Compound tincture of cardimon is given as 4 c.c. If 5 c.c. was considered the average dose, it would be very much easier for the physician to make up his prescription on the basis of 100 c.c. of the preparation being ordered. Tincture of belladonna is given as .6 c.c.; it might just as well be given as 5 c.c. The same statement applies to the average teaspoonful dose. The average teaspoon is just as likely to hold 5 c.c. as 4 c.c. and a dessertspoon is just as prone to have a capacity of 10 c.c. as it is 8 c.c. If this was considered to be the value of this particular measure, again figuring would be made very much easier. The compilers consider a tablespoonful as 15 c.c., which is as it should be. In the dry preparations, multiples of 5 are used almost entirely. The dose of chloral hydrate is given as .5 gm. and similar preparations are given this way. In other dry preparations, the alkalis for example, the effort has been made to transform the accepted dose in apothecary system to the metric system. Instead of making the dose of morphine sulphate .01 gm., it is made .008 gm. It would be very much simpler to use everywhere the multiples of 5. A 100 c.c. bottle would contain 20 doses and not 25 and multiplying a given dose by 20 is very much more simple than multiplying by 25, particularly if the given dose is an odd number, such as carbon tetrachloride, the dose of which is given as 2.5 gm.

J. H. MUSSER, M. D.

Skull Fractures: By William H. Stewart, M. D. (Annals of Roentgenology, Vol. VI.) New York, Paul B. Hoeber, Inc. 1925.

Dr. Stewart is to be complimented upon the thoroughness of his book, and especially the beautiful illustrations it contains. This book represents the modern and American method of artistic reproduction.

The subject of skull fractures is of interest not alone to the Roengenologist but to all practitioners of medicine, and for this reason this book should meet the approval of all medical men.

The author clearly explains and demonstrates the normal skull, that we may appreciate the abnormal. His explanation of the time factor in the disappearance of Roentgenographic evidence in fractured skull is of the greatest importance, and this alone should make the book invaluable. This book should be in the library of all Roentgenologists.

There are six chapters, with 49 beautiful illustrations.

LEON J. MENVILLE, M. D.

Facts on the Heart: By Richard C. Cabot, M. D. Philadelphia, W. B. Saunders Co. 1926.

This book is a compilation of an enormous amount of diagnostic statistical data from the Massachusetts General Hospital. The pathological findings at necropsy are used as the starting point and the clinical data is studied and criticized in the light of these findings. The observations are not those of one man, but the conclusions are more or less individualistic. The author in the preface advises most readers to read the opening and the closing chapters and the summaries at the end of each section, and then to look over as many of the illustrative cases as seem interesting, and very few people, he believes, should even try to read the whole of the book. The book contains, of necessity, little in the way of therapeutics.

After an introductory chapter on methods of examination, explanation of the material studied and frequency of lesions and variations of necropsy diagnosis, the author devotes a chapter to each of the following types of heart disease: Rheumatic, Syphilitic, Hypertensive, Myocarditis, Angina Pectoris, Endocarditis, Non-deforming valvular sclerosis, Acute Pericarditis, Chronic Pericarditis, Thyrocardiac and Congenital Heart Disease. The last chapter is a summary of the book. The facts for the most part are not much in conflict with those which have dominated modern cardiology within the past decade. An occasional acute difference with much of the current cardiological opinion is noted. The extreme opinion of the author on the subject of the diagnosis of organic mitral regurgitation certainly cannot be allowed to pass without comment. A forthcoming paper by H. B. Sprague, of recent studies at the Massachusetts General Hospital gives an altogether different version of this important subject, and the one that seems more accepted in modern cardiological circles. The author's note that "Most diagnoses of heart disease, whether made by physicians or suspected by the patients, are in my experience wrong." "In such cases the heart is usually sound," is rather a broad statement, which does not speak very highly of the ability of the author's colleagues. The possibility of being wrong in cardiac diagnosis is worthy of accentuation, but does not warrant undue exaggeration. Aside from occasional sharp and not wholly justified statements, the book contains much that is valuable, as a basis for comparison and consequently an index in the progress of the study of heart disease.

G. R. H.

Comparative Physiology: By Lancelot T. Hogben, M. A. (Cantab.), D. Sc. (London). New York, The Macmillan Company. 1926.

Professor Hogben's book represents the materials of a course of lectures delivered first in the Zoology Department and later in the Department of Physiology in Edinburgh University to medical students having completed a course of elementary physiology and to science students taking a course in zoology. It is the only work in English which gives an account of the physiology of the lower organisms. The effort is modest in scope but will be found useful and enlightening to the physician whose thoughts turn occasionally to basic sciences upon which his profession is furnished.

FRANCIS M. MUNSON, M. D.

Investigations on the Blood Sugar in Man: By Karen Marie Hansen, Pub. by Author. 1923.

While the method for determination of blood sugar is more or less antiquated and decidedly tedious, the method employed does not detract any from this excellent piece of research work. There may be some criticism on the duration of time the test was performed following the withdrawal of blood because the Glycolysis of the blood must be considered.

These experiments attempt to show the reality and explain the significance of the Oscillations in the Blood Sugar in Fasting Normal and Fasting Diabetic individuals; also after administration of Glucose in Normal and Diabetic persons.

In the normal individual the Fasting Blood sugar is about 100 mg. per 100 c.c. of blood. The fasting blood sugar is not an absolute constant quantity on the same day in the same individual.

It is known that after taking carbohydrate, that the blood sugar rises, not however as a smooth running curve as so often depicted, but with wave formation at the surface of the main rise. These small waves are particularly active and relatively large, when the level of the blood sugar is fairly constant, that is to say, at the top of a rise, which forms a plateau before the fall takes place, or when the sugar fasting level is unchanged which is seen with small administrations.

These waves are found in the amount of blood sugar 1, 2, 3, 4, 6, 12, 24, and 36 hours after a meal, consequently it is assumed that they are always present in a normal living individual. It is supposed that the liver sends out the waves although it is also probable that the peripheral tissues can yield up sugar to the blood.

The upper limit for the rise of blood sugar in normal persons after administration of Glucose

is about 180 mg. per 100 c.c. of blood. This limit however varies a little in different persons but seldom exceeds 180 mg.

The author of this little volume states that the explanation that the blood sugar rise ceases in the neighborhood of 180 mg. per 100 c.c. of blood must be sought in the phenomenon which is called removal-acceleration, and the power of acceleration is perhaps due to an increased supply of the pancreas hormones to the blood.

I regard this volume not only highly interesting to the teacher and research worker, but it is of a decided importance to the clinician treating Diseases of Metabolism.

UPTON GILES, M. D.

Modern Medicine: Its Theory and Practice. By Sir William Osler, Bart., M. D., F. R. S. 3d ed., rev. and re-edited by Thomas McCrae, M. D., assisted by Elmer H. Funk, M. D. Vol. 2. Illustrated. Philadelphia and New York, Lea and Febiger. 1925.

It is difficult to make a comparison between this and the corresponding volume of the preceding edition, because of a general rearrangement of the subject matter. However, in the individual articles, it is found that obsolete material has been deleted and recent information supplied. In fact, for a work of its scope and character, the subject matter is quite recent and complete.

Several new authors have contributed to this volume, amongst them being Dr. Edward Jenner Wood, with an article on Pellagra. It may be worthy of note to mention at this time, that Pellagra is classed with the Deficiency Diseases, little attention being paid to the possibility of there being an infecting agent, other than a summary of the report of the Thompson-McFadden Pellagra Commission.

Notice is taken of the growing interest in Proto-zoology and other so-called Tropical Diseases, the articles on anebiasis and bilharzia being particularly complete.

Space forbids mention of each article but it is believed that every article should prove itself to be both valuable and interesting and the volume is heartily recommended.

This volume is devoted to: Diseases of doubtful etiology; Diseases caused by protozoa, spirochetes and animal parasites; Diseases due to physical, chemical and organic agents; Deficiency diseases.

J. HOLMES SMITH, JR., M. D.

Gould and Pyle's Pocket Cyclopedia of Medicine and Surgery: Based upon the Fourth Edition of Gould and Pyle's Cyclopedia of Medicine and Surgery. Third edition. Revised, enlarged and edited by R. J. E. Scott, M. A., B. C. L., M. D. Philadelphia, P. Blakiston's Son & Co. 1926.

The third edition of this little pocket book, which has served a generation of doctors, will be found more useful than ever before. It has been thoroughly revised, much of it has been rewritten, a great many new articles have been incorporated and a few of the old ones omitted, all of which has resulted in an increase of 150 pages. The general plan of the book remains as before, including the dose table, which is in accordance with the new United States Pharmacopoeia X. It will doubtless continue to serve as a useful companion to the busy practitioner.

FRANCIS M. MUNSON, M. D.

Medical Diagnosis for the Student and Practitioner: By Charles Lyman Greene, M. D. Sixth edition, revised and enlarged. Philadelphia, P. Blakiston's Son & Co. 1926.

The sixth edition of this excellent book has been extensively and thoroughly revised and a great deal of new material added. As a matter of fact, so much new material has been added that there is a great deal of difference between this enormous tome of nearly fifteen hundred pages and the original, convenient, handy and practical early edition. Dr. Greene has followed very much the same form that he used in the original edition with marginal notes pointing out the most important features of the various paragraphs. Some of these notes are excellent; others are useless. "The bastard syndrome," "Private vs. public," "Scylla and Charybdis" means very little. In fact it would seem that a good many of these marginal notations might be omitted. If they were left out entirely it would allow more words to a page and might cut down somewhat the size of the book.

There are a few things which might be criticized in the authors evaluation of the importance of various things that he presents. Examination of the heart occupies almost one-third of the book, with the addition of a large number of unnumbered illustrations. Fifty pages are devoted to the electrocardiograph—certainly a disproportionate amount when we consider how few medical men are able or ever will be able to use and to interpret the results of this instrument of precision. Contrasted with the large number of pages devoted to this subject is the subject of anaphy-

laxis, certainly a most important development of recent years and particularly important in view of the fact that sera are being used more and more frequently in the treatment of disease. To this condition a little over one page is given. Another criticism which might be offered is that in going over the book it is found that in one place one statement is made and in another place a statement contradicting the first. As example, on page 154, it is said that "leucopenia and relative lymphocytosis are present as in true pernicious anemia but of high grade." On page 139 the only disease of the blood in which leucopenia is said to occur in chlorosis, but a long list of drugs which are rarely used, is included among the causes. Under lymphocytosis no mention is made of infectious mononucleosis. An obvious error occurs in speaking of "leprosy trypanosomiasis." Several pages are devoted to the practically useless index of urea excretion and no mention is made of the simple, easy and practical Bass-Johns test for typhoid fever.

It is easy enough for a reviewer to go through a book and to find errors. It is surprising indeed that there are not more errors than were found in looking under numerous headings. When one considers the perfectly enormous amount of material contained in a volume such as this, it is a wonder that more mistakes do not creep in. The proper evaluation of all the different tests is again a question of the personal equation and should not be criticized. The real, main criticism of a book such as this lies in the question of one man's being able properly to know about all the material in the book and whether such a book would not better be supplanted in the future by smaller volumes which are written by men who have first-hand knowledge of the information they wish to convey. However, Dr. Greene has accomplished his task well indeed and his book is certainly one that may be safely recommended to students for study and to practitioners of medicine for reference.

J. H. MUSSER, M. D.

Thoracic Surgery: By Howard Lilienthal, M. D., F. A. C. S. Philadelphia, W. B. Saunders Co. 1925.

This treatise in two volumes of more than six hundred pages each, covers the subject thoroughly, reviews of the literature and valuable contributions from the author's wide personal experience.

The author, in his usual enthusiastic and complete manner, presents each subject so well that there is little left for the reader's imagination.

It is all that can be asked for as a reference book for the general surgeon.

You may obtain information on any condition pertaining to thoracic surgery.

It is gratifying to note the space given to pulmonary tuberculosis, its treatment by pneumothorax and other surgical procedures, as this is indeed a subject neglected by so many surgeons.

SHIRLEY C. LYONS, M. D.

Submucous Endocapsular Tonsil Enucleation: By Chas. Conrad Miller. Chicago, Oak Press. 1925.

This is a well written and interesting volume on a slightly different method of enucleating tonsils. In addition to the description of his particular technique, the author gives the evolution of tonsil surgery with a short historical review from the time of Celsus to the present day technique. The many problems which so frequently confront the Otolaryngologist in this particular field are discussed and a number of helpful points are offered the reader. As is to be expected the author criticizes all methods of tonsillectomies except his own, and for this he lays claim to fourteen distinct advantages for the submucous endocapsular tonsillectomy.

F. E. LEJEUNE, M. D.

Memorandum of Toxicology: Partly Based on Tanner's Memoranda of Poisons: By Max Trumper, B. S., A. M. With an Introduction and Addenda by Henry Leffman, A. M. Philadelphia. P. Blakiston's Son & Co. 1925.

This convenient little manual, bound attractively in red flexible leather, has much to commend it. In addition to descriptions of the various poisons, including those that are assuming importance in modern industry and those used during the war, the book contains chapters on the definitions and modes of action of poisons, the diagnosis of poisoning, duties of practitioner in case of poisoning, the treatment of poisoning, the detection of poisons and their classification. It will find a useful place on the desk of the physician and in the accident room of the hospital.

FRANCIS M. MUNSON, M. D.

Treatment of Kidney Diseases and High Blood Pressure: By Frederick M. Allen, M. D. Part I, Practical Manual for Physicians and Patients. Morristown, N. J., Physiatrie Institute. 1925.

Allen's Kidney Diseases and High Blood Pressure is a splendid little manual containing some very practical suggestions, well-written in a clear manner, so as to be understood by the laity as well as the profession.

HAROLD A. BLOOM, M. D.

Diseases of the Eye: By Swanzy. 13 ed. Ed. by Louis Werner, M. B., F. R. C. S. I., Sen. Mod. Univ. Dub., with illus. Philadelphia, P. Blakiston's Sons & Co. 1925.

The thirteenth edition of this English classic is a volume of about seven hundred pages, mid-way in size and detail between our own books by May and DeSchweinitz. It was published after the author's death by his close associate, Dr. Lerner, who made the necessary additions and apparently the very excellent drawings.

A broad practical exposition of the subject is presented in an accurate, simple and clear way, free from the prejudices that are so often incorporated into books of this sort.

I enjoyed this volume so much that I read it from cover to cover, which accounts for a two months delay in the publication of this abstract.

Among the ideas of especial interest is the use of mercuric oxycyanide injections in rather numerous ocular affections and the omission of akenisis in ocular surgery.

Medical Ophthalmology: By R. Foster Moore. 2 ed., with 8 pl. and 92 illus. Philadelphia, P. Blakiston's Son & Co. 1925.

The second edition is a volume of over three hundred pages and was published but a very few years after the first edition, showing that an English book of this type which is well written, justifies itself from a practical standpoint.

It is essentially a description of the ocular conditions which occur in constitutional diseases and developmental anomalies. Ocular cerebral localization is discussed at some length and in a reasonably simple manner. The bodily systems are taken up and the various ocular manifestations of their several diseases described.

Although ocular involvement of focal infections in the body are apparently not due to a single organism, their frequency and importance in the opinions of American Ophthalmologists would seem to justify at least some mention and even detailed description. The author has purposely omitted all mention of them. But then,—there are many roads that lead to Rome, and each of us thinks our road is the shortest.

CHAS. A. BAHN, M. D.

PUBLICATIONS RECEIVED.

Lea & Febiger, Philadelphia and New York: "Text-Book of Urology," by Oswald Swinney Lowsley, A. B., M. D., F. A. C. S.

Paul B. Hoeber, New York: "The Principles of Anatomic Illustration before Vesalius," by Fielding H. Garrison, A. B., M. D.

G. P. Putnam's Sons, New York and London: "Text-Book of Materia Medica for Nurses," compiled by Lavina L. Dock, R. N., and Jennie C. Quimby, R. N.

J. B. Lippincott Company, Philadelphia, London and Montreal: "Experimental Pharmacology as a Basis for Therapeutics," by Dr. Hans H. Meyer and Dr. R. Gottlieb.

William Wood and Company, New York: "The International Medical Annual," 1926.

The C. V. Mosby Company, St. Louis: "The Beaumont Foundation Lectures, subject The Thyroid Gland," by Charles H. Mayo, M. D., and Henry Plummer, M. D. "A Manual of Normal Physical Signs," by Wyndham N. Blanton, B. A., M. A., M. D. "Nursery Guide," for Mothers and Children's Nurses, by Louis W. Sauer, Ph.D., M. D. "Diseases of the Skin," by Richard L. Sutton, M. D., LL.D., F. R. S.

P. Blakiston's Sons & Company, Philadelphia: "Edgar's Practice of Obstetrics," by J. Clifton Edgar, revised by Norris W. Vaux, sixth edition. "Surgical Anatomy of the Human Body," by John B. Deaver, M. D., Sc. D., LL.D., F. A. C. S., second edition, Vol. 1.

W. B. Saunders Company, Philadelphia and London: "Collected Papers of The Mayo Clinic and the Mayo Foundation," edited by Mrs. M. H. Mellish, H. Burton Logie, M. D., and Charlotte E. Eigen Mann, B. A. "Applied Biochemistry," by Withrow Morse. "Pediatrics," by various authors, edited by Isaac A. Abt, M. D., Vol. VIII. General Index to Abt's Pediatrics, Volume I to VIII.

REPRINTS.

"Actinomycosis, report of a case involving the Duodenum and Biliary Tracts," by Maurice Buchsbaum, M. D. "Surgical Exposure of Deep-seated Inaccessible Neoplasms for a proper implantation with Radium Emanation in Capillary Glass Tubes by the Basal Route," by Paul E. Durham, M. D. "The Constitutional Effect of Prolonged Intestinal Toxemia," by William Seaman Bainbridge, A. M., M. D., Sc.D. "Acidosis and Acetonaemia in Relation to Sea-Sickness," by B. Sidney Jones, M. R. C. S., Eng., L. R. C. P. Lond. Surgeon, R. M. S. "Thyroid Dysfunction in Toxicosis," by William Seaman Bainbridge, A. M., Sc. D., M. D.

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ACUTE PYOGENIC INFECTIONS OF THE BONES AND JOINTS.*

WITH ILLUSTRATED CASES.

E. D. FENNER, M. D.,

NEW ORLEANS.

Acute pyogenic infections of the bones and joints are not confined to childhood, but they are so much more common in youth that they may be regarded as typically disorders of the young.

Osteomyelitis, the outstanding example, may be acute, subacute, or chronic, according to the violence of its onset, or the stage at which it is encountered. The disease has an extensive literature. Its etiology, symptoms, diagnosis, and the indications for its treatment, have been so thoroughly formulated that it might appear that there was little to justify another paper on the subject were it not for the fact that the records of the hospital here (and I believe it would be found equally true anywhere else) indicate that prompt diagnosis, and immediate, adequate treatment are the exception rather than the rule. Iteration and reiteration, of perfectly established principles seems justified in connection with a disease so common, so fatal—or if not fatal, so crippling and prolonged in its course—if it can be shown that mistaken diagnosis is frequent in its early stages, and, in consequence, delay in treatment is usual at the very time when

adequate treatment is of supreme importance. Any one who reviews the histories of a large series of cases of acute osteomyelitis will at once realize that such delay in diagnosis and in treatment is usual. This is my excuse for bringing before you a subject already so abundantly discussed by abler men and I may be pardoned for giving a brief synopsis of the main facts in connection with the disease.

Acute osteomyelitis is chiefly met with in childhood, especially in adolescent boys, who furnish almost three times as many victims as girls. It may, however, be seen in early childhood, and even in adults. The process is an acute infection of the medullary substance, the periosteum, or both at once, deposited from the blood stream, and taken up into the blood as a rule from foci, such as a furuncle, situated at a distance from the infected bone. Typhoid, influenza, colon bacilli, streptococci, or staphylococci, may be the infectious agent, but in the great majority the disease is due to the staphylococcus. Sudden chilling of the body and slight trauma undoubtedly play a part in the etiology by lowering general and local resistance, and the greater liability to trauma, which is the inevitable result of the rougher sports of boyhood, may in part explain the disproportion in the number of males in any large series of cases.

As already stated, the disease usually begins in the medullary substance of the diaphysis near the epiphyseal line, but a sub-periosteal infection may be the pri-

*Read before the Orleans Parish Medical Society, May 10th, 1926.

mary site, the process involving the deeper structure secondarily; in a certain number of cases it appears that sub-periosteal and medullary infection are simultaneous. The choice of the juxta-epiphyseal structures is due to the vascular distribution in bone.

Once the infection has been established, the dense envelope of bone, within which the infectious products are confined, causes tension. There is rapid extension of the process along the canaliculi and the medullary canal. The circulation of large areas of the bone is choked off, and extensive necrosis results. In the more fulminant cases, absorption of the poison results in a general septicaemia. The joint adjacent to the infected bone frequently becomes the site of an effusion, which may or may not be purulent. Occasionally a pyogenic inflammation of a joint may be complicated by an osteomyelitic infection, secondary to the joint trouble.

The onset of acute osteomyelitis is, as a rule, sudden, with pain distinctly localized in the neighborhood of, but not actually in, the joint. This pain is excruciating, and associated with exquisite local tenderness on pressure. It is said that percussion of the affected bone, even at a distance from the actual site of trouble, will bring out this pain and tenderness in a striking manner, and may be of value in diagnosis. Swelling of the limb generally develops rapidly, affecting the neighborhood of the joint rather than the articulation itself. But, as already noted, effusion in the joint is often present. A discriminating examination will, however, nearly always reveal that the greatest pain, tenderness, and swelling is in the proximity instead of in the articulation. An initial chill and rapid rise of temperature are characteristic of the acute cases; a somewhat milder onset may be seen in cases with milder infection. Decided leucocytosis is invariable; prostration, restlessness, delirium, profound toxemias correspond to the virulence of the infection.

Diagnosis is based upon the clinical picture drawn above. Mistaken or delayed diagnosis, with resultant widespread destruction of bone and prolonged disability, even though life itself is not sacrificed to the indecision of the attendant, appears to be chiefly due to a failure to appreciate the significance of the group of symptoms given above, or to a lack of self-confidence and courage to act before the collection of pus outside the bone—provided the patient survives that long—has become so obvious that it can no longer be disregarded. Along with this goes the failure to appreciate the vital importance, far greater in its urgency than the early operation in appendicitis, of minimizing the systemic poisoning, and limiting the spread of the infection *under tension* throughout the whole bone marrow which inevitably results in strangulation of the blood supply with consequent necrosis of the bone. It cannot be too strongly emphasized that in the crucial early days of acute osteomyelitis the x-ray picture is an utterly untrustworthy guide. When time enough has elapsed to read disease in the X-ray picture the patient has already survived the worst dangers to life, and extensive destruction of bone has already been established.

Acute rheumatism is a common preliminary diagnosis for which, in point of fact, there is not much excuse. Severe enough to simulate acute osteomyelitis, it is almost certainly poly-articular, and the trouble is unmistakably located in and not near the joints.

Acute pyogenic infection of the joints is frequently monarticular, presents the same excruciating pain and tenderness, a severe systemic infection, high fever, and leucocytosis, but the joint can nearly always be shown to be the chief seat of trouble. A really careful examination will show that the neighboring bone does not exhibit the extreme tenderness seen in osteomyelitis.

Typhoid fever is another false diagnosis too often made. Certainly there is little

resemblance between the mode of onset of the two diseases. Although it is true that typhoid fever may occasionally be the cause of an acute osteomyelitis, this does not occur in the beginning, and the early history of typhoid fever is not attended by violent pain and tenderness, with swelling, near the extremity of one of the long bones. If we are honest we must admit that it is difficult to find an excuse for such an error.

Inasmuch as this paper is not intended to be a complete dissertation on acute osteomyelitis, but simply a brief synopsis to emphasize certain features, I shall do no more than mention certain other disorders which must be borne in mind as possible sources of error, such as *acute synovitis*, the *haemorrhagic effusion of scurvy*, and the early stage of the *neuritic type of poliomyelitis*. Oschsner states that the differentiation of certain cases of poliomyelitis, with high fever, mental excitement, and excessive pain and tenderness due to involvement of the peripheral nerves, may be very puzzling.

The prognosis is always grave. Death usually occurs during the acute stage, or is the result of delay in treatment. That it can be decidedly modified by early diagnosis and immediate treatment is beyond question. In a diffusion of a better knowledge of the significance of its symptomatology, and of the imperative importance of speedy intervention, lies the hope for a lowered mortality, and a reduction in the interminable duration of the average case.

The treatment should be immediate and courageous. Twenty-four hours may mean a great difference. In a few words it consists in permitting the escape of the inflammatory products of the disease before they have had time either to overwhelm the patient with septicaemia, or to destroy the vitality of the whole shaft of the bone. The only way to accomplish this is by cutting down upon the bone so as to expose it freely, making a liberal incision in the

periosteum, and then opening the bone near the epiphysis by means of a drill, a trephine, or chisel and mallet. If pus is found beneath the periosteum, you may confidently expect that it will be present within the bone. Even though no pus is found under the periosteum, the bone should be opened, because pus may be actually present in the marrow, or its formation imminent. The removal of a part of the bony case relieves the tension within the bone, permits the escape of inflammatory products, and may arrest the progress of the disease, or at least so mitigate it that resolution may take place without any actual bone destruction; the long drawn out process of necrosis, and the necessity for secondary operations may be entirely avoided. I am well aware that a number of authorities have claimed that simple incision of the periosteum may be sufficient, as witness a recent report and discussion of a case of multiple osteomyelitis before the New York Academy of Medicine, but it seems to me the margin of possible error is too great; if pus has not formed in the marrow, a simple trephining can add little to the severity of the operation, whereas, in the presence of pus, failure to open the bone may be disastrous in its consequences.

Diagnosis in the very beginning, with immediate, adequate, and certain drainage, which implies opening the bone itself, appears to me to be the first and great commandment in the management of acute osteomyelitis. The details of subsequent management I shall not attempt to discuss at this time.

Acute pyogenic infections of the joints in the young is not as common as osteomyelitis, but pyarthrosis not due to a compound injury of the joint, but resulting from the transportation of the infectious material from distant foci, is no rare disorder. As a rule these frankly purulent cases are due to staphylococci. The hip and knee are the more commonly affected joints. The onset is sudden, stormy, with

high fever, and severe pain, tenderness, rapid swelling, and fixation of the affected joint. Leucocytosis is always present. The patient is obviously very sick. Redness may be quickly developed in the superficial joints, but at the hip it cannot be recognized. The same thing is true of swelling, but even at the hip the presence of effusion may be detected by careful examination. Pain and tenderness to pressure are very great, and this pain and tenderness is in the joint. Attempts to move the joint are resisted, and give agonizing pain. In the beginning the effusion in the joint may be serous, or only turbid, but in the type of case I am discussing the change to frank pus is not long delayed.

The diagnosis is made certain by aspirating and withdrawing some of the fluid from the joint. This is easier and more likely to be done in the knee than at the hip, but even in the latter a large bore needle passed backward, just below Poupert's ligament, midway between the femoral artery and the anterior superior spine of the ilium, will enter the hip joint. Aside from the diagnostic value of the procedure, aspiration is imperatively indicated in any distended joint to relieve tension, which is the chief cause of pain and of subsequent impairment of function.

In dealing with these cases the indications are much the same as in osteomyelitis. Agonizing pain, fixation of the joint in acute flexion, swelling, which is less apt to involve the periarticular structures than the joint itself, high fever, severe constitutional disturbance, with leucocytosis, particularly if the trouble is confined to a single articulation, ought not to be written down as rheumatism, or anything else which might excuse delay. The joint should be aspirated by means of a needle large enough to permit thick pus to pass. If pus is found an arthrotomy should be done at once. The procedure advocated by Wilhelms of opening the joint widely, leaving the wounds unsutured, except perhaps for

a few stitches to fasten the synovial membrane to the skin to ensure the permanence of the stomata, followed by active motion to pump out the pus, seems to me the safest and surest road to recovery with good function. I cannot agree with Cotton that aspiration with copious irrigation with a weak solution of bichloride of mercury ought to supersede the more radical procedure. There is no doubt that the prognosis is not as good at the hip as at the knee, but even there a life may be preserved which would have been sacrificed to more dilatory measures.

The points I have attempted to bring to your attention in this paper are illustrated by the case records briefly summarized below.

Not all of these cases were my own; some were in the service of other surgeons on the staff. Where the patient was under my care the fact is indicated in the case notes.

Case 1. Cyril P., age 7 years, white. Admitted on September 9, 1923, discharged on December 30, 1923.

History: Two weeks before his admission his right leg began to swell and became very painful. No history could be gotten of trauma, or of any infectious focus. His symptoms have been pain, tenderness, swelling of the leg, and fever. Examination reveals marked swelling of the right leg, extending from the knee to the foot. There is redness and local heat. Along the anterior surface of the tibia there is exquisite tenderness on even light palpation.

Skiagraphic report on September 10th (the following day): "Osteomyelitis lower end of right tibia."

Temperature ranged between 98.5 F. in the morning and 101 F. in the evening, for the next week.

Operation on September 17th (8 days after admission): "Osteotomy. Canal was opened with mallet and chisel. A lot of pus oozed out of the medullary canal. All diseased bone possible was removed. A large pack inserted."

Skiagraphic report on October 20th: "Osteitis distal end of diaphysis of tibia, with a large sequestrum on inner side of the diseased bone."

Second operation on November 9, 1923, "to remove the sequestrum, which was about an inch long. Bone was curetted and packed."

December 30, 1923: Patient discharged. He was walking about, but there was still a discharging sinus.

Comment: The too common delay in diagnosis and treatment is illustrated in this case. Two weeks elapsed between the onset of characteristic symptoms and admission to hospital. Even after a positive x-ray report had been received, a week was allowed to pass before drainage was established, and the infected medullary canal was opened. A secondary operation was necessary. It seems probable, since a discharging sinus was still present at the time he was discharged 4 months after the onset, that his trouble was not over.

Case 2. Penrod L., age 11 years. Admitted on July 28, 1923. Discharged on March 24, 1924.

History: Patient fell from the back of a truck striking upon his right side and thigh. He was unable to walk after the fall, and was taken to the hospital in the ambulance. Right thigh swollen and tender to touch, but there is no evidence of laceration of the tissues; no crepitus or abnormal mobility.

Radiographic reports: August 6, 1923, (8 days after admission). "No evidence of fracture of the femur." August 16th: "Lateral view of lower 3rd. right femur shows a tumor mass about $4\frac{1}{2}$ inches long, by $1\frac{1}{2}$ inches wide, posterior to, and in contact with lower third of femur. Probably an ossifying haematoma." August 29th: "A. P. & Lat. views of thigh show alteration of the diaphysis of femur, with marked periosteal reaction, and posterior to the bone a large sub-periosteal collection—blood or pus." September 8, 1923: "Osteomyelitis lower $\frac{1}{2}$ diaphysis of femur, probably resulting from infection of the large haematoma." September 21, 1923: "Oblique view of both hips and pelvis shows infection of femur extending upwards; now 6 c. m. below lesser trochanter. Infectious arthritis of left hip." December 1, 1923: "A. P. & Lat. views of right femur show marked osteomyelitic changes throughout lower $\frac{2}{3}$, with formation of a large sequestrum."

The records in this case are very imperfect, but the case notes indicate that during the early days of his stay in the hospital there was a pneumonia of the right lower lobe. The only blood count recorded was on August 10th, showing a leucocytosis of 15,150. The temperature ranged from date of admission, July 28th, to

September 6th, around 103F., with morning remissions. After this it declined by lysis, with occasional peaks of 101 F. At some time between the date of his admission and December 3rd, either an incision or a rupture had permitted the discharge of pus from the inner side of the thigh.

On October 4, 1923, he was transferred to my service, but my absence from the city on vacation prevented my seeing him, and it was not till the beginning of December that my attention was called to him. On December 3, 1923, I operated, the operation sheet stating that the case was "an old necrosis of the femur. A sinus on inner side of the thigh was incised, the shaft of the femur exposed, and a large sequestrum removed. Counter opening on outer side, and two large cigarette drains passed through and through." Patient discharged on March 24, 1924, walking, but with a sinus still present.

Comment: For reasons not very clear in the history, this patient was allowed to go without operative interference for a very long time. The development of pneumonia during the early days no doubt had something to do with it, but it seems certain that localized pain and tenderness were present from the beginning, and should have led at least to exploratory puncture. Whether the discharging sinus was due to incision or to rupture is uncertain. I cannot assume entire responsibility for the long delay after his transfer to my service, because I was absent on vacation. The case is cited because it seems so clear that adequate treatment early in the attack would have greatly abbreviated the disability in this case.

Case 3. Clifton Archer, white, age 5 years, was admitted March 5, 1924, and discharged on April 20, 1924.

History: "The patient's mother first noticed that the child was complaining of pain in left knee and thigh 6 days before he was admitted. Pain and tenderness rapidly increased; temperature went up to 104 F. A local physician diagnosed "hip trouble" and advised his removal to hospital. There was no history of recent trauma.

Examination showed the left lower limb in acute flexion on the abdomen, with abduction and external rotation, and with flexed knee. Acute pain referred to hip and inner side of knee. Motion of hip extremely painful. Temperature 104 F. The next day, March 6th, blood count showed a leucocytosis of 17,500, with 3,500,000 erythrocytes. On March 7, at 9:30 a. m., I did an exploratory trephining of the neck of the femur. No pus was found, but the mater-

ial from the trephine opening was reported back on March 12th as indicating "acute exudative osteomyelitis." Buck's extension was applied as soon as the child returned from operating room. The next day the maximum temperature was 100 F., and thereafter ranged between 99 F. and an occasional rise to 103 F. till March 19th, when it became practically normal. The wound had healed, and on March 20th a spica was applied, and the child permitted to go home.

Comment: There is no record of an x-ray examination, and yet it seems certain that one must have been made. In the presence of acute pain, tenderness, high fever, and leucocytosis, an exploration of the bone was done promptly, and apparently with salutary effect upon the disease. Material from the trephine opening was reported to show "acute exudative osteomyelitis." Left to itself does it not seem probable that the process would have spread and produced wide destruction of tissue?

Case 4. Willie D., colored, age 8 years, was admitted to the hospital on August 24, 1924, and died on August 29, 1924.

History: "Patient says he struck his right knee on August 21st. Acute pain rapidly developed in his left leg, with high fever and delirium. He was very sick. By mistake he was sent to a medical ward, but was transferred to a surgical ward the next day, and the following morning, August 26th, operation was done. The history states that the 'right leg from the knee to the ankle presents a swollen, red appearance. Condition is critical, pulse weak and rapid (140), temperature 105 F.' An incision was made over the tibia and a small osteotomy done to relieve tension. On August 25th, the day before operation the x-ray report was that 'no pathology could be made out.' On this date there was a leucocytosis of 18,250. The patient did not react after the operation, but grew steadily worse. Every supporting measure was employed, but in vain. It was evident that septicaemia was present, and on August 29, 1924, the patient died."

Comment: Following a slight trauma the patient became rapidly acutely ill. A mistaken admission to a medical ward was promptly corrected, and adequate treatment, not neglecting the opening of the bone, was done within 30 hours. The skiagraph revealed no changes in the bone, although infection was there. The case illustrates the virulent type of infection.

Case 5. Geraldine Durger, white, female, age 3 years. Admitted September 11, 1925. Discharged September 27, 1925.

History: On Saturday, September 5, 1925, child fell from a chair and struck her right knee

on the floor. Next day she developed acute pain in the right knee, with fever. She could not walk. She was treated by a physician, and advised to come to the hospital. Examination shows the right thigh near the knee somewhat swollen, painful, and very tender to pressure. The knee is held in flexion, but by very careful manipulation it can be moved. Temperature is 102 F. She was operated on by me as an emergency case the same day. The operation sheet states that "there is swelling and extreme tenderness over lower 3rd of right thigh. A muscle splitting incision on antero-lateral aspect gave a beautiful exposure of the bone; not a single artery clamp was needed. There was no pus beneath the periosteum, but a small opening was made in the bone, which bled a little more freely than would be expected. At first it looked as if there was no pus, but after a moment or two a small amount of pus welled up. The opening in the bone was enlarged, and a cigarette drain was inserted."

Skiagraph taken on September 15th, "shows no evidence of bone disease." On September 16th the pathologist reports "staphylococcus albus in pus submitted."

The patient was discharged to the clinic, on September 27th, with normal temperature, but with slight discharge still coming from the wound.

Comment: Six days elapsed between the acute onset and her admission to the hospital. The symptoms were characteristic, and should have been recognized earlier. Operation was done immediately, and the absence of pus beneath the periosteum did not deter me from opening the bone, where pus was found. X-ray absolutely negative.

Does it not appear certain that the mild course in this case was influenced by the prompt intervention? It is to be admitted that this was not a fulminant infection, but the amount of bone destruction would surely have been greater had we continued to temporize after her admission.

Case 6. Joseph Reed, white, age 2 years. Admitted February 23, 1926. Died February 28, 1926.

History: Duration of illness before admission not given. There was high fever, pain, tenderness and swelling of the leg. On February 25th incision with free opening of the periosteum over the crest of the tibia. No pus escaped. Wet dressings. February 26th, pus is now discharging. Temperature still very high. On the next morning, February 27th, the child is exceedingly ill. Under local anaesthesia the soft parts freely incised, and an opening made in the bone from which pus welled up. Skiagraph on February

24th revealed no bone changes; another on February 25th, and a third on February 26th, were entirely negative. Leucocytosis of 12,500. Respiration very rapid, pulse 150-160. Bronchopneumonia suspected. The operation gave no relief of symptoms, and death occurred the next day, February 28, 1926. The pus contained staphylococcus aureus.

Case 7. Doland Laurent, white, age 2 years. Admitted February 25, 1926. Died February 27, 1926.

History: Illness began on February 20th with pain and tenderness in right leg, with high fever. On admission very ill, with convulsions threatened.

Examination: Right leg shows an incision draining pus. There is severe pain, tenderness and swelling of the entire leg from knee to ankle. Evening of February 25th, 500 c.c. glucose and 5 units insulin by hypodermoclysis. February 26th patient was seen by me. Very weak and cyanotic. A rush x-ray picture was reported absolutely negative for bone changes. Free stimulation ordered. On February 27th, under local anaesthesia, the soft parts were freely incised, and the bone opened. Pus escaped from the bone under pressure.

Temperature in the evening of 25th was 105 F. On the morning of 27th it was 106 F. The infection was due to staphylococcus albus.

Comment: This was evidently a virulent infection. Drainage had already been established from the periosteum. Opening the bone on the morning of the 27th was not an example of temporizing in view of the fact that the case was only admitted in the afternoon of the 25th. However a week elapsed between the stormy onset with typical symptoms before adequate drainage of the bone was effected. Had the periosteum been freely incised and the bone opened during the beginning instead of at the end of a week, does it not seem probable that the fatal termination might have been averted?

CONCLUSIONS.

1. Both acute osteomyelitis and metastatic pyarthrosis are typically diseases of the young. The blood borne infection may be caused by typhoid, influenza, the streptococcus, but in the great majority it is due to either staphylococcus aureus or albus.

2. Considering for the moment only acute osteomyelitis in its stage of onset and early evolution, the disease is generally

abrupt and stormy in its attack, presenting a group of symptoms definite and significant enough to justify the recognition of the true nature of the disease much more promptly than is usually done.

3. The mortality is largely during the acute stage; or, if the patient survives the initial sepsis, extensive necrosis of bone, the necessity for repeated operations, and prolonged invalidism, are in direct proportion to the length of the delay in diagnosis and adequate treatment. Time is a factor of the utmost importance in the prognosis not only as to recovery, but as to the extent of bone destruction and the consequent duration of invalidism.

4. The records of hospitals all over the country indicate but too plainly that doctors are woefully timid in accepting the evidence of a developing osteomyelitis, and that they are not sufficiently impressed with the disastrous results of delay in dealing with the disease.

5. The X-ray picture is utterly useless at the beginning, and should be regarded as a mere confirmation, if bone changes are seen, of a diagnosis which should have been made long before this.

6. Localization of severe pain and tenderness, with swelling, near the end of a long bone, associated with fever, prostration, and leucocytosis, are almost pathognomonic of osteomyelitis. The fear of not finding pus either beneath the periosteum or in the bone should not deter us from intervention. Operation done at this time may save the patient's life, and arrest the spread of the infection before extensive bone destruction has become inevitable.

7. Bearing in mind the dangers of permitting virulent pus to remain locked up under tension within the bone, we should not be content with a simple incision of the periosteum, but should make certain of drainage by making an opening in the bone as well. Thus only can relief of intra-

ossecus tension of infectious matter be assured.

8. A campaign of education is needed to disseminate a better appreciation of the symptomatology, the urgent importance of prompt diagnosis, and the imperative necessity for immediate action to secure drainage not only of the soft parts, but of the bone as well.

DISCUSSION.

Dr. H. Theodore Simon: I think Dr. Fenner should be congratulated for his very excellent paper. I believe that he did not stress sufficiently the amount of crippling we do see, particularly where infection involving the epiphyseal cartilage causes, in later years, marked shortening of the limbs.

I am sorry Dr. Fenner did not bring before you again some of the successes he has had with the Wilhelms operation for joint infection. At the last clinical meeting the results he showed were most remarkable. It is not the case we get early, but the case operated with through and through drainage that gives us the most trouble. Let Dr. Fenner explain more particularly on the Wilhelms method of draining joints, for the benefit of the surgeons present. Through and through drainage gives anything from a complete ankylosis to any degree of limitation. A few words from Dr. Fenner on this subject would be very advantageous to the Society.

Dr. Isidore Cohn: Dr. Fenner has covered, in a most admirable way, all of the important points in regard to osteomyelitis. Particularly has he called attention to the importance or necessity for early diagnosis. We can congratulate Dr. Fenner for having presented this admirable paper and ourselves on having heard it.

We are apt to disagree, sometimes, on the little points. Dr. Fenner has mentioned the use of the chisel and mallet, along with the trephine or motor controlled drills, or even the simple device suggested some time ago by Dr. Maes—the gimlet, for the purpose of obtaining drainage.

The most frequent cause of death in fractures is fat embolism. The earliest pathological change in osteomyelitis is liquifaction of fat within the marrow. Trauma from the use of a chisel and mallet may cause fat embolism. The chisel and the mallet should not be used. Another thing Dr. Fenner called attention to was the use of the curette. I believe the time has come when we ought to put the curette in a glass case and

mark it among the obsolete instruments. One of the things upon which we depend for regeneration of bone is endosteum; if we curette we tear away this regenerative factor. Last but not least, there is danger of injury to the nutrient vessel and if we get a hemorrhage from that we not only have hemorrhage, but death of a large amount of the bone through loss of its blood supply.

Dr. A. C. King: Any paper dealing with acute infection of the bones is always timely. Dr. Fenner has covered the ground quite well. I do not know that I can add anything to it. I think the discussion of a serious problem like acute bone infection is always necessary.

The greatest mistake we make in acute osteomyelitis is the lack of early diagnosis. Dr. Fenner has called attention to this and Dr. Cohn called attention to leaving the endosteum intact. We stand now where we did 25 years ago in relation to our ability to diagnose acute appendicitis. Almost anyone here can diagnose acute or chronic appendicitis because we keep certain symptoms in mind. We fail to do that in acute osteomyelitis. We fail to remember the blood borne diseases due to skin trauma, typhoid fever, etc.

Speaking of Dr. Maes,—I remember one of the post-graduate men related a case to me due to typhoid fever in a colored girl which he had accidentally been stopped to see 15 miles from the office. He diagnosed it as typhoid osteomyelitis, giving a little chloroform and using a carpenter's bit. Made a little incision, drilled a hole in the humerus, and the woman got well. It is not always necessary to do a big operation. Two or three drill holes made with an electric drill is all that is usually necessary. Too much drumming with chisel and mallet does damage.

In our service in the hospital we are confronted with long drawn out cases because early diagnosis is not made and they come in with a terrific amount of bone destruction, we keep them in the hospital for from 15 to 18 months and even then they often go out crippled. They go out with a drainage condition and we lose sight of them after leaving.

The reason for the tremendous sequestration which we take out from the long bone is very plain.

I am glad Dr. Cohn brought out the point about putting the curette in a glass case, particularly in the acute condition. Infection will do two things: (1) destroy endosteum, and (2) destroy periosteum. Destroy the blood supply and the bone will die, sure as fate. In operating it is usually not necessary to gutter the bone from one end to the other.

In the early case the pathological condition is this: the infection within the bony canal means that the products of this infection are put up within a closed canal with no way of escape except through the Haversian Canals, and when this occurs and we find pus sub-periostically the damage has been done. The pain in osteomyelitis is due to *tension within the bone* and is often terrific.

As Dr. Fenner has ably pointed out early diagnosis, and early operation are the indications. We are often blocked by objections on the part of parents, however in time this can be overcome, just as it has in advising operation for an acute appendix.

Dr. O. C. Cassegrain: It is very true, and everybody admits that if we take acute osteomyelitis in the early stages, the operation of cutting down to the bone and drilling one or two openings is all that is necessary. As Dr. Fenner has said, however, we are all confronted with the fact that the great majority of these cases come to us too late, when bone has already been destroyed, and at that stage simple incision and drilling is not sufficient.

In my clinic in the hospital the frequency of bone sinuses of long standing is appalling, and it is in the treatment of these late cases that I wish to sound a warning.

The mistake too often made is not removing enough bone. When the disease is well established we should go beyond the dead bone, well into the healthy bone. I do not believe you can ever remove too much healthy bone in these cases. If the proper methods were used we would not have these long standing sinuses. The thing to do is to remove all the dead bone and then remove as much of what you consider healthy bone as you have the nerve to do.

Dr. Urban Maes: Osteomyelitis has been a hobby of mine for the past 15 or 20 years, and 3 years ago I presented a paper on the subject before the State Medical Society.

During these years I have watched the disease rather closely, but in my experience with two hospitals I have yet to see a case of acute osteomyelitis; practically all of the patients seek relief after the damage has been done. In studying the subject with Dr. Rives 3 years ago, we found that three diagnoses covered nearly all cases, typhoid fever, tuberculosis, and intestinal upset.

The disease is a definite entity, it always occurs in certain spots, terminally in the long bones, and there is no reason why the general practitioner should not recognize it. We have succeeded in teaching our undergraduate students and our young practitioners and surgeons the

classical signs of appendicitis, and I think the subject of acute infectious osteomyelitis should be presented to them as an equally important thing. If we could teach them early recognition of the disease we should undoubtedly save many lives. Moreover, the treatment is not complicated. Since the disease always occurs next to the epiphysis, two or more drill holes at the end of the bone give practically immediate relief, and prevent extensive necrosis.

As I have said, those of us who do hospital practice rarely if ever see acute osteomyelitis until the disease is so far advanced as to be almost chronic. In private practice the reverse is true, but in public institutions, extensive necrosis is the rule on admission, and permanent disability is not infrequently the result. The death rate, of course, is much higher than it would be if the cases were seen earlier.

Starr's rules for the management of these cases are as simple and as sensible as any I know. The treatment, as I have said, is by no means complicated, and some years ago I suggested the carpenter's gimlet as an excellent instrument for releasing the infection. Promptness in diagnosis and treatment should be emphasized, and I need hardly point out to you the importance of a strictly aseptic technique.

Dr. Fenner (closing): On the comment of Dr. Cohn: I never, willingly, open an osteomyelitic bone with the chisel,—I always use the Hudson drill or the trephine and, if necessary, gouge forceps, but, if I did not have a trephine or Hudson drill, I would open it with whatever was available. The thing I am trying to emphasize is "*the bone should be opened.*"

Only a week or two ago a German writer told us when to open the periosteum by claiming if pus was present in the medulla there would be oil globules in the urine. I will not wait for that,—it is too big a risk. One of the cases I was not able to recall was that of a little patient, 2 years of age. It was a thoroughly acute form, high fever. The trouble was around the hip. In the hip joint it is difficult to say if it is in or near the hip. I got the impression from my examination that the trouble was near the hip. I trephined the neck of the femur. That was within two days. I did not get any pus. Report on scrapings sent back "acute exudative osteomyelitis" and no destruction of bone or joint resulted. I had the courage to go in before the pus had formed.

I think the profession needs to have emphasized to them the necessity for prompt intervention. Prompt action in appendicitis was pounded in by

paper after paper until finally the profession was waked up. The same thing is needed in regard to osteomyelitis. We would not have the fatality, we would not see just the chronic osteomyelitis. The profession does not realize the fact that the symptoms of the disease are definite. It is as easily recognized as appendicitis. We should not wait three, four or five days. In one of the cases we made an incision to the periosteum. The child was very sick and I immediately had my intern incise freely down to the periosteum of the tibia. The child the next day was still sick. The following morning I took the temperature, and it was 106°. Gave a local anaesthetic, bored a hole in the bone and the pus poured out. The child died the next day. During that time three x-ray pictures were taken. The x-ray showed no signs of pus or periosteal disease. If I had had the time or courage to take the child and open up the bone instead of the periosteum the child might have been here today.

THE ENDOCRINES IN PATHOGENESIS AND THERAPY.*

H. J. ACHARD, M. D.,
GLENDALE, CALIF.

Since the endocrines are concerned in virtually all physiological processes, it need not cause surprise if it is asserted that a disturbance of the endocrine balance, through defective or excessive functioning of some one or more glands, must give rise to disease. I need refer only to such gross examples as myxedema, exophthalmic goiter, acromegaly, tetany, Addison's disease, dystrophia adiposogenitalis. Not all effects of dyscrinism are so spectacular, however, and many times slight deficiencies or exaltations of function may be concerned in affections that had never been suspected of endocrine associations. Levi and Rothschild have written a book (1913) on the minor thyroid deficiencies. Bandler's book on the endocrines contains numerous references to the subject, not only of thyroid, but other forms of dyscrinism.

Specialists of all branches have become interested. Physicians devoting exclusive or special attention to the diseases of eye, ear, nose, throat, skin, gastrointestinal, urogenital organs, teeth, etc., all have recognized endocrine links in the chain of events that bring ill health. We are familiar with the endocrine origin of the diseases mentioned already and acknowledge it in diabetes mellitus and insipidus, in dysmenorrhea, infantilism, in some forms of neurasthenia, that grab-bag of missed diagnoses. We readily admit that there is an essential endocrine factor in some forms of adiposity. There is an endocrine form of epilepsy; the toxemic phenomena of pregnancy are explained in like manner; migraine and some other forms of headache, hemophilia, etc., have often an endocrine association, as have gastric and duodenal ulcer, delayed union of fractures, varicose ulcers. In all the conditions named, and in numerous others, endocrine deficiency or excess looms large as a factor, though not *the* factor, and often the associated endocrine therapy brings clinical triumphs that no other form of treatment has been able to produce.

MANIFESTATIONS OF DYSCRINISM.

Some of the endocrine glands, as the adrenals and the parathyroids, are indispensable to life and their loss leads to death. Others have an important influence on growth and nutrition, and disturbances in them may lead to grave troubles.

The symptoms occasioned by affections of the endocrine glands consist mainly in trophic troubles, in disturbances of circulation, of metabolism and in nervous upset. The last involves especially the sympathetic nervous system. The trophic troubles involve most commonly the entire organism. One may find generalized conditions, such as dwarfism or gigantism. Besides, one may encounter special types of growth, such as the infantile type with large head and short extremities, persisting to adult age. The eunuchoid growth is, on the con-

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trary, characterized by elongated limbs. In these diverse cases of abnormal growth, the X-ray may discover changes in the osseous system, for instance, premature or tardy closing of the epiphyses.

The epidermis, the form of the hair covering, the subcutaneous tissue may also present trophic changes. There may be excessive dryness or moistness of the skin, troubles of pigmentation, an edematous or a sclerous condition of the integument. One may also encounter deposits of fat giving to men a feminine appearance. The hair covering may undergo like transformations, especially that hair which grows at puberty (beard, hair in axillæ, pubic hair, and around the anus). One may observe a total loss of hair, or, on the contrary, a hypertrichosis. Atrophy of the genital organs is important.

Disturbances of metabolism effect mainly that of the fats and the minerals. Excessive emaciation or marked obesity are frequent symptoms in the diseases of the endocrine glands. The sugar metabolism is often disturbed; in that case, urinalysis after the ingestion of glucose is necessary to establish the differential diagnosis between glycosuria and pancreatic diabetes. The nitrogen and calcium metabolism may be modified; but is less easy to study.

With regard to the nervous system, it is especially the muscular force and the irritability that present alterations. To these there are added important symptoms of sympathetic nervous origin which manifest themselves in various ways—in changes in the diameter of the pupils, the appearance of the eye ball, the pulse rate, the arterial pressure, the external secretions (diuresis, sweat, etc.), and also in the intestinal peristalsis. These disturbances of the sympathetic nervous system are discovered with the aid of pharmacodynamics: The subcutaneous injections of remedies like pilocarpine, atropine, epinephrin, pituitrin, cause certain reactions in normal persons, which are modified when the patient is affected by

an endocrine disease. Local examination is not possible except in a few of them; so the thyroid and the testes may be examined by inspection and palpation; the ovaries only by palpation. The condition of the pituitary may be determined by radiography, that of the thymus by the stethoscope. The adrenals are least of all accessible to direct examination.

In many instances, an affection of the endocrine glands may favor the outbreak of certain maladies, for instance some skin affections. In these cases, improvement often follows after suitable organotherapy. While it is important to keep this point in mind, one should avoid including, among the endocrine affections, every disease that may be improved by endocrine therapy.

HORMONES AND CONSTITUTION.

Pende (*"Konstitution und Innere Sekretion."* Leipzig, 1924, p. 7) speaks of "the undeniable effect of the hormones upon the mental development and upon the psychic equilibrium, especially the influence exerted on that psychic phase which determines conduct, the manifestations of inclinations, of emotions and the will, also temperament and character of the individual. He raises the question whether the morphological and the moral anomalies of criminals must be charged to their particular endocrine constitution. * * * He refers to the analogies existing between the hyperthyroid temperament and that of certain impulsive or sexual criminals; also the analogies between the dyspituitary temperament and that of certain apathetic, cynical, sanguine criminals; finally the analogies of the dysgenital temperament with the somatic-psychic anomalies of sexual criminals and prostitutes.

The influence exerted by the hormones upon the constitution is described by Julius Bauer, of Vienna (*Endocrinology*, May, 1924, viii, pp. 297, 322). He says that growth and bodily development are under the influence of the gonads, as is indicated by the variations from normal in those

whose gonads are either not functioning or have been removed before puberty. The thyroid and pituitary also are of influence and, further, the cells of the osseous system, especially those forming the epiphyseal part of it, possess a certain autochthonous automatism (l. c., p. 302). "The endocrine organs influence the growth," he says, "but they alone do not bring it about; without them we would observe a certain amount of growth, too. Normal growth is the product of co-operation of autochthonous growth of the skeleton cells with certain endocrine glands stimulating or checking it."

In this whole process of growth, partly due to constitutional peculiarities, heredity is of importance, the characteristics being localized potentially in the germ cells.

THE ENDOCRINES IN INFECTIOUS DISEASES.

There are very many instances in which *infection* seems to be an etiological factor in endocrine disease as such. We are all familiar with the causal connection between quinsy and hyperthyroidism, tonsillitis and thyroid disease, parotitis and orchitis or inflammation of the ovaries. Consequently, if an attack of scarlet fever at the age of four is followed by the syndrome of hypopituitarism (as reported by Theodore McGraw, *Endocrinology*, Mar., 1924, p. 210) the relation of cause and effect is readily suggested.

Such a relation is not surprising if it is kept in mind that the occurrence of infection at once sets in motion the immunizing apparatus of the organism and that the endocrines are intimately concerned in this. Indeed, Professor Sahli recently (*Schweiz. Med. Woch.*, Jan. 9, 1926, lvi, p. 1) has outlined a theory of immunity which he claims to be more correct than the Side-Chain Theory of Ehrlich and in which the endocrine products, the hormones, are immediately instrumental in producing antibodies against infectious organisms. We know that the mineral metabolism is one of the vital functions and that it is under

the direction of those endocrine glands which are essential to life, namely the thyroid, the hypophysis, the parathyroids, the adrenals and, with them, the gonads. In addition, the thyroid especially is instrumental in bringing about the neutralization of the toxins that are formed in the destruction of bacteria and also in the disposal of dead tissue cells which, being foreign protein substances, exert a toxic influence unless disintegrated and removed from the body.

It is readily understood that, in this struggle against injurious substances of considerable potency, the endocrine glands may be injured and in extreme cases we then have serious endocrine disease. In less extreme involvement, there may follow an endocrine dysfunction which is amenable to restoration by suitable remedial measures. Grove and Vine, for instance, have shown that the parathyroids are often implicated seriously in infectious diseases, such as tuberculosis, and that a depreciation of their function will bring about a lessened calcium metabolism; the titer of the fixed blood calcium being diminished. When the parathyroids are injured, the blood is no longer able to fix the requisite amount of calcium. No matter how much calcium is introduced into the circulation, it is eliminated as fast as it is assimilated. When, however, the function of the parathyroids is restored, the blood can once more fix its lime and an amelioration in the condition of the patient will become noticeable. This favorable effect of remedies that improve the functioning power of the parathyroids has been demonstrated in tuberculosis, also in hemophilia, in some forms of epilepsy (*i. e.*, those that are secondary to focal infections or to intestinal intoxication, etc.) and in other conditions in which a disturbed calcium metabolism is of importance.

The thyroid also is concerned in tuberculosis, and the differential diagnosis between early tuberculosis and thyroid intox-

ication or even thyroid instability may be difficult. In tuberculosis as well as, in thyroid disease, there may be a rapid pulse, fatigue on slight effort and even without effort, there may be digestive upset and various other manifestations of ill health that are not sufficiently characteristic to establish a diagnosis without careful observation.

In the treatment of infectious diseases, endocrine remedies have often been used with good results. For instance, Wagner v. Jauregg and Gustav Bayer ("*Lehrbuch der Organotherapie.*" Leipzig, 1914, p. 237) say that because of the favorable influence on heart lesions and disturbances of blood-pressure, through pituitary preparations, these have been recommended in infectious diseases, especially in cases where toxic troubles had affected the heart. They insist that in infectious diseases treatment with hypophyseal extract is definitely indicated when severe intoxication of the heart is present. In such a case the low blood-pressure is raised, the pulse becomes slower and stronger, the action of the heart more vigorous. Because of the rapid action, these preparations are superior to digitalis, caffeine and camphor in these conditions.

During the epidemic of Spanish influenza in the winter of 1918-19 and in the next one, 1921, Sajous emphasized a particularly unfavorable effect of the infection upon the adrenal apparatus. He attributed the exceedingly slow convalescence and the frequency of recurrence to this fact and counteracted it successfully with adrenal therapy. Sajous' conclusions were adopted by many physicians with satisfactory results.

We have already mentioned the degree in which the parathyroids are implicated in tuberculosis as well as other infectious diseases. Many cases of thyroid irritation have been traced back to infections of the tonsils and to pyorrhea.

From all this, the indications for a deliberate endocrine therapy in patients

affected with infectious diseases can readily be deduced.

THE ENDOCRINES IN OBESITY.

In these days of Sheiks and Shebas, the maintenance of a slender bodily shape is considered necessary and the appearance even of mild plumpness is viewed with alarm by the fair, with at least distaste by the men who object especially to aldermanic rotundities. *Obesity* or adiposity is not always a punishment for gluttony. In many cases it is pathological and is then directly associated with endocrine dysfunction; it is related to disturbances mainly of the thyroid, hypophysis and gonads, although Zondek incriminates also the pineal, the adrenal cortex, and the pancreas. Others speak of a thymus obesity. As far as these forms of obesity are concerned, we are dealing with a lowering of the basal metabolic rate which is normally regulated by the thyroid gland but in which the other endocrines are also interested. The endocrine kind of obesity can be recognized by the fact that the fat is deposited mainly on certain portions of the body while other parts show a normal fat distribution. We find the pituitary adiposity characterized by the large shoulder and hip-girdle fat, while forearms and hands, lower legs and ankles may be small and slender. The thyroid fat appears in the form of pads above the clavicles, also on the bloated face, in contrast to the small and animated facies of the pituitary obese. The gonad obesity shows the fat distributed all over. There are numerous other characteristics (condition of skin, heavy abdomen, *mons veneris*, in pituitary adiposity, *e. g.*), but endocrine obesity is an essentially endocrine disorder and, therefore, not strictly within the limitations of our present inquiry.

THE ENDOCRINE FACTOR IN ARTHRITIS.

For many years, Léopold Lévi ("*La Petite Insuffisance Thyroïdienne*," Paris, 1913) has asserted a hypothyroid factor in *arthritis*. This has actually been

found to exist in so far as arthritis occurs on the basis of an insufficiently active metabolism and intestinal toxins are deposited in joints and elsewhere, where they give rise to inflammation; but it does not put aside those forms of arthritis that are clearly of infectious origin. H. K. Thompson (*Boston Med. and Surg. Jour.*, Apr. 2, 1925) differentiates three classes of chronic arthritis, viz,

- (a) Isotrophic, or undifferentiated;
- (b) Atrophic;
- (c) Hypertrophic.

"Cases of chronic arthritis of the isotrophic group represent the primary residua of infective foci. They may remain as such without bone changes, or may develop changes of the hypertrophic or possibly of the atrophic type, in which event a disordered endocrine system may be demonstrable either as the immediate causal agent or as a complementary phenomenon.

"The cases of the atrophic group offer some evidence of endocrine dysfunction. In many, features associated with hyper- or dysthyroidism are present, while, in a few, other endocrine foci seem more probable.

"Cases showing changes of the hypertrophic type present evidence of endocrine hypofunction, seemingly of the thyroid, with low metabolic rate, slow pulse, low blood-pressure and generally lowered tone. These are usually amenable to gland therapy."

G. A. Persson, of Mount Clemens, Mich. (*N. Y. Med. Jour.*, Sept. 19, 1923, cxviii, p. 363) elucidates the mechanism in an acceptable manner. He says:

"* * * focal infections of the alimentary tract are present in a large majority of arthritic cases. These infections are probably of long standing and represent a losing battle on the part of the system against the inroads of invading bacteria. This battle begins in infancy and turns toward defeat at that period of life when, owing to the strain of the exacting condi-

tions under which we live, the toxins created by inimical bacteria accumulate to such a degree that they give rise to glandular unbalance. This occurs because the glandular secretions that stimulate the development of antibodies in the blood finally become insufficient for the performance of their functions, owing to the excessive demands upon them. Certain of the overloaded glands tend to exhibit alteration of physiological function and their secretory power becomes curtailed. That at once impairs the efficiency of the particular organs that are normally kept at par by the presence of these secretions carried to them by the bloodstream. This impairment weakens the resisting power of the organs concerned, which thus fall an easy prey to the inroads of bacteria that in turn tend to weaken them still further. A vicious circle is thus created working always for more and more unbalance in the interlocking system of glands that controls our vital processes and that presents a constantly diminishing check to the inroads of pathogenic bacteria. * * *"

According to A. Mackenzie Forbes, Clinical Professor of Orthopedic Surgery, McGill University, Montreal (*Can. Med. Assn. Jour.*, Dec., 1924, xiv, p. 1192), the blood calcium of a number of patients, in the Children's Memorial Hospital, Montreal, that were suffering from chronic arthritis, diminished in about 33 per cent. of severe cases of infective arthritis. He says: "The parathyroids govern calcium metabolism. Interference with the functional activity of these glands may increase the patient's susceptibility to the deleterious effects of toxins derived from the alimentary canal. What, may we ask, is the relation between injury to the parathyroid glands and some of the cases of infective arthritis? Is it possible that in some of these the initial lesion is in the parathyroid and that this opens a door of infection of the intestinal mucosa?"

NEUROSES, NEURASTHENIA, DEMENTIA PRAECOX.

According to A. E. Gow (*Brit. Med. Jour.*, Apr. 19, 1924, p. 697), it may be that many of the so-called functional diseases—that is, diseases in which no structural lesion is demonstrable with the means at our disposal—are due to disturbance of endocrine function. We are accustomed to speak of various *neuroses*, which term implies the idea of an underlying instability of the nervous system as the *fons et origo mali*. But is it the nervous system which is always primarily at fault? We are frequently called upon to treat “gastric neuroses”—cases of dyspepsia in which peptic ulcer, carcinoma, cholelithiasis, or chronic appendicitis can be certainly excluded. The outstanding symptom may be referable to disturbance in the motor, secretory, or sensory function. Vagotonia is associated with a high stomach, vigorous peristalsis, and hypersecretion; sympathicotonia with a low and often large viscus, delayed emptying and hyposecretion. Gastric neuroses present varying clinical pictures but in not a few of the hyperchlorhydric type evidence of vagotonia may be found if carefully looked for, whereas hypochlorhydria is not infrequently associated with thyroid deficiency, and such patients will derive benefit from small doses of thyroid extract given by the mouth.

Neurasthenia is not infrequently a sequel to an infective disease in which the suprarenal glands may have suffered damage with consequent lowering of function, or it may develop after a prolonged period of strain or anxiety which calls in the first place for increased production of adrenalin with subsequent adrenal exhaustion. The irritant effect of physical or mental trauma does not find expression in neurosis until endocrine exhaustion occurs—the obsessions, fears and anxieties gain the upper hand, overflowing the lowered threshold of control; or in another group the adrenal check on the thyroid is lifted and Graves' disease ensues. The neurasthenic is un-

able to control the functions of the nervous system in a normal manner, and the recognition of disturbed endocrine activity helps in understanding the symptomatology, and restoration to health will coincide with the readjustment of the endocrine balance. In many cases there is doubtless a psychic element also, to which great importance has been attached in some quarters, but the elimination of this feature by itself is but rarely sufficient to effect a cure.

With regard to the endocrine factor in neurasthenia, Tom A. Williams is quite emphatic (Author's Abstract, *Med. Rec.*, Apr. 14, 1917, xci, pp. 623-627). “The association of this condition with prolonged mental and physical strain is very usual in his experience. The pathology is the extensive destruction of the medulla of the adrenal gland. That the cortex has an important role, too, was shown by animal experiments, and by a case in whom the post-mortem examination showed complete loss of the cortex, while considerable medullary tissue remained at death at the culmination of a typical Addison's disease clinically, although there was no tuberculosis.

“The chief signs in diagnosis found are marked asthenia, without tachycardia or cardiac exhaustion, although fatigability is sometimes extreme. The presence of apathy depends upon the temperament, as do the psychological disturbances, which are usually not severe. Low blood-pressure is constant, and pigmentation may be present. Either mild somnolence or wakefulness may occur. Atonic dyspepsia or constipation may be present, but they are rarely conspicuous features. Complication by parathyroid insufficiency is not infrequent.

“The treatment in most cases is as simple as that of thyroid deficiency, and consists of feeding with dried adrenal gland. In a considerable experience of this substance, a curious phenomenon has shown itself, viz., the very usual fall of blood-pressure resulting from adrenal feeding in

small doses. Only when the dose is increased to a certain point (which varies in different individuals) does the blood-pressure begin to rise. Another curious phenomenon is that, after some months of improved health, the patient is able to dispense with adrenal feeding and yet remain in good health with blood-pressure augmented to normal. It seems that this must be due to the upholding of the adrenal gland by a specific protein obtained from the gland fed to him. This is the opinion of John Rogers as the result of his experience in feeding gland residues. In the vagotonic cases the addition of calcium-containing food is beneficial and, in mild cases, all that is necessary. In the severer cases, the expensive parathyroid gland must be fed, and when neurohyperirritability causes great discomfort, belladonna must be had recourse to also."

With regard to *dementia praecox*, Abderhalden has expressed the belief that the disease owes its origin to a dysfunction of the sex glands. I. Geikie Cobb ("Organs of Internal Secretion," 3d Ed., 1921, p. 267), who quotes Abderhalden, points out that dementia praecox is essentially a disease commencing in adolescence; in other words, when the fresh internal secretions of the gonads make their appearance and, when they are not "assimilated" to the existing system, they are capable of disturbing the normal balance. This additional and vigorous appeal is such that the cerebral neuronics must suffer strains in their endeavor to meet this call with a corresponding vigor of inhibition. An accumulation of affection tension, or subconscious emotion, is brought about. The physiological channel of outlet for subconscious emotion is the sympathetic nervous system. The chromaffin cells, being developmentally closely associated with the sympathetic nerve-cells, will feel the hereditary biological handicap almost, if not quite, as severely as the neuronics. There will therefore be a hypersecretion of adre-

naline, which, in excess of the bodily requirements, is a toxin.

Beverley R. Tucker (*Amer. Jour. Psychiatry*, Oct., 1922, ii, No. 2, p. 261) quotes Kirby and Gibbs (*State Hospital Quarterly*, New York, 1921, vi, p. 147) as having called attention to the changes in the size and consistency of the testes in cases of dementia praecox; also Tiffany (*State Hospital Quarterly*, New York, 1921, vi, p. 159), who made microscopic studies of the ovaries and testes in 87 cases of dementia praecox, found interstitial connective tissue increase almost constantly, the Leydig cells diminished in size and number. Absence of spermatogenesis was also found in the testes.

However, at the Psychiatric Institute, Ward's Island, N. Y., it has not been possible to discover, either clinically or at autopsy, any endocrine disorder which one would be justified in regarding as "the cause of dementia praecox." It is possible, Milton A. Harrington admits, nevertheless, that amongst the large group of cases at present classed as dementia praecox, there are some that are definitely of endocrine origin. "A study of the endocrine organs is well worth while, therefore, not with a view to finding in these organs 'the cause of dementia praecox,' but with a view to separating out from the dementia praecox group those cases that should be classed with the endocrine disorders."

An editorial article in *The Journal A. M. A.* (July 7, 1923, lxxxi, 44) summarizes the investigations of several authors who had come to the same conclusions. However, it is not of as much practical importance whether gonad and other endocrine dysfunction is the principal etiological factor in dementia praecox as rather whether it is of importance at all. Even if the endocrine factor is secondary, it nevertheless has a considerable bearing and may be eliminated, at least, in part, by a suitable "specific," i. e., endocrine therapy.

This position is in keeping with the conclusions expressed by Nolan D. C. Lewis (*Nervous and Mental Disease Monograph Series*, No. 35, p. 124), who has found histopathologic changes in the endocrine glands, particularly in the thyroid, adrenals, and gonads, as universally present as are the characteristic mental symptoms in the clinical picture of a case. The various aplasias, atrophies, scleroses, and patchy hyperplasias of these glands apparently do not depend upon age, duration of psychosis, or the incidence of associated physical disease, and upon careful thorough examination of the structures by modern and improved staining methods, one must conclude that they have suffered in the course of the development of the personality so that their respective functions are subsequently, imperfectly, and aberrantly performed.

If it is true that gonad deficiency in dementia præcox is the result and not the cause of the condition, the usefulness of gonad therapy is thereby not impaired. Symptomatic treatment has its distinct place in therapy and may be resorted to in order to tide the patient over difficult places and to control certain phenomena that inhibit his response to etiological treatment.

THE ENDOCRINES IN GYNECOLOGY.

If we attempt to investigate the part played by the endocrine glands in *gynecology*, we shall be kept busy for far into the night. S. W. Bandler (*The Endocrines*, Phil. and Lond.: W. B. Saunders, 1920; also *Medical Gynecology*, Phila. and London: W. B. Saunders Co., 1924) for one, expresses his conviction very emphatically to the effect that a great many gynecological afflictions have their origin in, and are maintained by, endocrine disorders. These concern mainly the ovarian apparatus, then the pituitary, the thyroid and the adrenals. It is a matter of course that the other endocrine glands are concerned in many instances. Bandler is by no means alone in his position, as is apparent

from the optimistic therapeutic suggestions that Oliver T. Osborne offers in his *"Principles of Therapeutics"* (W. B. Saunders, Phil. & Lond. 1921). And there are many American and foreign authors who agree with the position taken by these two clinicians.

THE ENDOCRINES IN THE SPECIALTIES.

An intense interest has recently been manifested by *specialists* in the influence exerted by endocrine dysfunction in those diseases to which they devote special attention. Some of my friends among ophthalmologists, otologists, dermatologists, and so on, have assured me repeatedly that they find much practical use for endocrine therapy and that the study of their patients from the endocrine viewpoint often helps them to a better understanding of the cases. This is but natural in view of the important functions of these little organs and should not require any elaborate confirmation. I may refer to an article published recently by Professor C. H. Sattler (*Deut. Med. Woch.*, Aug. 21, 1925, li, p. 1387), who discusses the relation of internal secretions to the eye. This article has been abstracted in detail in *The Endocrine Survey* for May, 1926, p. 188. It may be said briefly that one of the most spectacular endocrine affections of the eye is the exophthalmos of Graves' disease. Sattler refers the swelling of the pigmented epithelium of the iris to endocrine upset and also mentions inflammations of the iris that are occasionally produced by diabetes mellitus. Cloudiness of the lens even amounting to cataract is considered as being due to parathyroid deficiency. It may be that cataract is favored by insufficient functioning of the Langerhans islands (diabetic cataract) perhaps also by hypogonadism (senile cataract), and by hyperpituitarism (cataract of diabetes insipidus). The best proof of an endocrine influence in the pathogenesis of cataract is seen after partial extirpation of the parathyroid where it is a part of the syndrome of latent tetany. Changes in the

retina and the papilla are observed in pancreatic diabetes. Atrophy of the optic nerve has been caused by excessive administration of thyroid substance. The bitemporal contraction of the visual field caused by pressure on the chiasma by an enlarged hypophysis is well known. Without a doubt, the intra-ocular pressure is dependent upon endocrine function. Hertel found the pressure lower in animals that had been given thyroid substance; in patients with hyperthyroidism the pressure is usually low; in those with hypothyroidism it is higher than normal, and the latter may show other symptoms of glaucoma. It is of practical importance that thyroid medication can lower the pressure in glaucoma, sometimes even after miotics have failed to give results. In passing, it may be mentioned that intravenous injections of adrenalin have caused the intra-ocular pressure in glaucoma to become lower.

With regard to *otosclerosis*, different opinions have been expressed and, very naturally, an endocrine disturbance has been postulated. About two years ago, Dana W. Drury, of the Evan's Memorial, Boston (*Boston Med. and Surg. Jour.*, June 12, 1924, exc, p. 1029) published the results of a clinical and laboratory study covering a period of eighteen months and designed to ascertain if there be any endocrine influence demonstrable in otosclerosis. Out of a total of forty-four cases, eighteen (40.9%) were found to have another than an endocrine etiology, while endocrine disturbances were present in twenty-six (59%). When the endocrine function was abnormal, it was inclined to be lowered rather than increased. Several individual foci were implicated, namely, the pituitary, the thyroid, and the ovary.

In *dermatology*, a relation to abnormal functioning of the ductless glands and also of the sympathetic nervous system is incriminated with increasing frequency. Drs. Fred Wise and Joseph J. Eller, of Colum-

bia University, New York, classify skin diseases in six groups, some of which being associated with metabolic changes that may be toxic, others being related to anaphylaxis, to focal infection, to affections of the nervous system. One group of skin diseases has, as a probable etiological basis, disturbances in endocrine functioning and in this group the authors include scleroderma, atrophoderma, dermatitis dysmenorrhoeica, acne vulgaris, Recklinghausen's disease.

The association of some skin affections with emotional disturbances is illustrated by H. H. Hazen and E. R. Whitmore (*Arch. f. Dermat. u. Syph.*, Aug., 1925, xii, p. 261), who remind us that emotional disturbances cause such transitory cutaneous manifestations as blushing, pallor, or excessive perspiration. They report cases of distinct erythema of from one hour's to three day's duration, which were due clearly to emotional upset. They claim that in a small group of cases urticaria may follow emotional disturbances, even though most commonly it is an expression of anaphylaxis.

With regard to the relation of the endocrine glands to the *teeth*, especially where associated with *ricketts*, Dr. W. G. Ward contributed a very interesting article to the *Medical Journal and Record* for December 16, 1925, in which the various lesions of the gums and teeth are shown to be in part due to endocrine insufficiency. This may affect the thyroid, the parathyroid, and the thymus, more especially. Dr. Ward orders a carefully regulated diet, living under suitable hygienic conditions with lots of fresh air and a reasonable endocrine treatment consisting of a combination of the parathyroids with thyroid and calcium lactate. A number of interesting papers on the subject of the endocrines in dentistry has appeared, some of which have been abstracted in *The Endocrine Survey* (Sept., 1924, i, p. 484; Oct., 1924, i, p. 521; Nov., 1925, ii, p. 460; Mar., 1926, iii, p. 105).

OLD AGE.

Finally, in common with some other writers, Arnold Lorand (*"Old Age Deferred,"* F. A. Davis Co., Philadelphia, 1920) is inclined to consider old age as a pathological condition, at least at the early period at which it declares itself among civilized people, and claims that it depends on certain changes in the ductless glands, especially the thyroid and the gonads. Indeed, he paraphrases the famous dictum about a man being as old as his arteries to: the age of a man depends on the quality of his thyroid. This is in keeping with the opinions expressed by Leonard Williams, of London, whose recent book, *"Middle Age and Old Age"* (Oxford Univ. Press, N. Y., 1925), makes highly interesting reading, not only for those who are approaching middle age or old age, but for the younger ones, too. For nobody is spared the ultimate *descensus Averni*, so to speak. Despite a somewhat sarcastic review in *The Lancet* (June 13, 1925, ccviii, p. 1246), Dr. Williams' book may be recommended for careful study, not only for any personal benefit, but because it is replete with practical suggestions for the study and relief of those complaints that elderly patients so constantly refer to the consideration of physicians.

TOXIC STATES.

In addition to these and various other maladies that have been brought into direct or indirect etiological connection with endocrine dysfunction, there are numerous other states of impaired health in which the same factor is held to be active. Many times, the evidence is that provided by a successful therapeutic experiment; in others, the connection is claimed on the basis of perfectly rational ratiocination. For instance, in the manifestations of toxemia of pregnancy such as severe vomiting, eclampsia, etc., an endocrine influence is quite logical and, in truth, endocrine and other organotherapeutic measures have worked great benefit and even cure, in

numerous instances. Migraine, also asthma, those afflictions of innumerable theories and therapies, show in many cases evidences of endocrine insufficiency and yield to appropriate remedies. In urticaria and other manifestations of anaphylactic shock, epinephrin is commonly employed with success. Intestinal intoxication impairs the functioning power of the thyroid, the hormone apparatus of the liver, and that of other organs producing internal secretions. In these cases, the addition of hormone support to the other therapeutics measures proves the existence of an endocrine factor by the prompter response of the patient to the treatment.

What has been said in the foregoing by no means exhausts the clinical conditions in which an endocrine factor has been proved to exist. Despite the objections of abstract science, clinical medicine has found its search for additional light on many obscure problems successful. It is not astonishing then, that endocrine therapy is constantly gaining in favor and that it has come to be an essential addition to the materia medica of the practitioner in medicine.

It is not claimed that endocrine therapy is a shortcut to success or that it is a cure-all. Haphazard prescribing will bring disappointment here as it does with other methods of treatment that are practiced uncritically. Moreover, the administration of endocrine remedies is only rarely the only measure called for. Whether these remedies are indicated to stimulate and support a lagging endocrine function or to restrain an excessive production, it is always necessary to study the patient from all possible angles. Infectious foci and sources of toxins must be discovered and eliminated. Constipation and its sequel, intestinal autointoxication, must be corrected. A suitable diet and proper habits of living must be insisted upon. Very often persistent attention to these points will be sufficient to restore the patient to health.

In numerous cases, though, the results of treatment are not fully satisfactory until the existing dyscrinism is remedied by an appropriate endocrine therapy. *Curationes ostendunt naturam mali* may be criticized as *post hoc ergo propter hoc* reasoning. It is not necessarily so. Very often the outcome of the "therapeutic experiment" actually affords the proof that the physician's reasoning has been correct.

INTRAOCULAR MANIFESTATIONS OF SYSTEMIC DISEASES.*

W. S. SIMS, M. D.,
JACKSON, MISS.

First, a brief description of the indispensable instrument that makes it possible for us to explore the fundus of the eye may be of some interest. To Helmholtz belongs the great credit of the discovery of the Ophthalmoscope, an instrument by which we can view the interior of the eye. Up to this time (1851) intraocular diseases of the eye were classed under the head of amblyopia and amaurosis. The instrument enables us to explore the interior of the eye and diagnose lesions of which previously we had little knowledge. Of equal importance is the power of recognizing fundus changes which constitute valuable signs in the diagnosis of systemic diseases.

The principle of ophthalmoscopy is to bring the source of light in line with the reflected or returning rays. The original ophthalmoscope as devised by Helmholtz consisted simply of a glass plate placed in a certain position to receive rays from the source of light that are in return reflected through the pupil into the eye. They are again reflected from the fundus of the eye and partly enter the observer's eye. From time to time improvements were made. The first was a mirror coating of the plate that increased the reflecting power. This

was followed by a round hole in the plate of glass, enabling the observer to see through the mirror coating. Later a decided improvement was made by Ruete in 1852 with a perforated concave mirror. Liebreick's ophthalmoscope is not without some merit. Following this, Loring introduced his instrument with a disc containing convex and concave lenses which gives us a sharp image of the retina. At last we have now what we believe to be a perfected instrument in the device known as the electric ophthalmoscope. While these improvements are of great value, the principle of the ophthalmoscope as discovered by Helmholtz remains the same.

RETINITIS.

Inflammation of the retina presents various clinical types, but there are certain symptoms that are more or less common to all varieties.

The usual subjective symptoms—impaired vision, sometimes more marked at night, changes in the field of vision, alteration in the shape of objects and reduced light sense.

Objective symptoms—There are no external signs, but with the ophthalmoscope we observe diffuse clouding of retinal details, especially in the region of the papilla, exudations, distention of the vessels and hemorrhages of various shapes and sizes.

Treatment—The local treatment consists of absolute rest of the eyes, protection from light with smoked glasses, and often the use of atropine.

In addition it is of the greatest importance to treat the constitutional condition which is the cause of the retinal lesion.

We will now speak briefly of the various clinical types:

ALBUMINURIC RETINITIS.

This disease usually presents well marked ophthalmoscopic signs which are very characteristic. Pure white spots, found chiefly at the macular and surrounding the disc,

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

less frequently elsewhere. At the macula these spots are usually arranged in radiating lines which form a star-shaped figure with the fovea for a center.

The condition is of great prognostic importance and indicates a fatal termination in from six months to two years.

Treatment must be mainly directed to the nephritis.

URAEMIA.

Uraemia is a term used for loss of sight due to the retention of substances normally excreted by the kidneys.

Treatment is that of uremia.

DIABETIC RETINITIS.

The appearance of this form of retinitis is in small white spots in and around the macular region, grouped irregularly and not in the form of the stellate figure as in albuminuric retinitis. There is no swelling of the optic nerve or retina.

The progress depends upon the systemic condition or treatment.

Treatment is that of diabetes.

SYPHILITIC RETINITIS.

This usually appears in the acquired form during the first or second year.

There is usually great swelling of the retina and disc and fine dust-like opacities of the posterior portion of the vitreous.

The treatment is well known to all of you, but I want to emphasize the importance of early and vigorous treatment.

Retinal changes due to excessive light, as looking at the sun with insufficient protection; electric light, as in electric welding, and sun-light reflected from snow. This is not due to a burn as was believed at one time, but to pigment changes at the macula. The changes may be less marked after a time, but do not disappear entirely.

Changes in the fundus in arteriosclerosis. The lesion is often first discovered by an ophthalmological examination and is important because it is sometimes the first

evidence of the existence of this very serious vascular lesion. It usually indicates similar lesions in other parts of the body, especially the brain. The fundus presents increased tortuosity and beaded appearance of the blood vessels; interruptions or breaks in the vein where they are crossed by the arteries. White lines along the course of vessels is also a very valuable point in diagnosis. The corkscrew appearance of the small vessels should be looked for.

EMBOLISM OF THE CENTRAL ARTERY.

We understand from this a plugging of the central artery of the retina by a non-infected embolus, causing a sudden blindness.

Objective signs. The ophthalmoscopic appearance is very characteristic. The fundus becomes pale, even milky. At the situation of fovea there is a bright cherry-red spot. This is due to the red color of the choroid seen through the very thin retina opposite this area.

The condition is most frequently due to a valvular heart disease.

Treatment is rarely effective. If the case is seen early inhalation of amyl nitrite, massage and paracentesis of the cornea may be employed for the purpose of driving the plug along into one of the smaller branches.

RETINITIS PIGMENTOSA.

This is a chronic form of retinitis which has a constant tendency to become worse, terminating in advanced years in complete blindness. The ophthalmoscopic examination shows black spots in the periphery of the fundus, and presents the appearance of bone corpuscles.

The disease affects both eyes and is either congenital or develops in childhood. It is hereditary and is often found in the offspring of consanguineous marriages.

There is no known treatment.

DETACHMENT OF THE RETINA.

Retinal detachment is a separation of the retina from the choroid. The separation is usually caused by serum, but may be the result of a hemorrhage, exudation or tumor. It is most often found in myopic eyes of high degree.

The prognosis is unfavorable. Even after improvement relapses are the rule, and complete blindness is the usual end.

CHOKED DISC.

This condition presents itself as a swelling limited largely to the disc, with extreme dilatation and tortuosity of the veins.

We recognize two types of choked disc. First a papilledema in which the condition is suggestive of compression causing edema or the non-inflammatory variety.

In this variety, the lesion in typical cases is limited rather sharply to the disc with scarcely any changes in the retina.

Brain tumor is the most frequent cause of papilledemae, and is sometimes the first symptom of an intra-cranial growth.

Temporary relief can usually be obtained by trephining the skull, but the removal of the tumor is the only hope of a permanent cure.

Second: The inflammatory type may be divided into the descending neuritis and neuroretinitis. In the former the appearance indicates inflammation and is attended with moderate swelling of the disc with some exudate covering the surface and margins, and slight fulness of the veins; and not limited to the disc, but extends to the retina.

In neuroretinitis there are added to the signs of neuritis just given, evidence that the retina is extensively involved, such as hemorrhages, exudates and degeneration. In advanced and long standing cases, no sharp line can be drawn between these

three types as transitional stages occur, and a study of other symptoms are necessary to arrive at a proper diagnosis.

The treatment must be directed against the cause.

Orbital and periorbital diseases contribute a large number of the second and third class. A goodly number can be traced to general diseases, especially infective diseases.

DISCUSSION.

Dr. J. W. Barksdale (Jackson): Dr. Sims was kind enough to ask me to discuss his paper. I will not presume to discuss the ophthalmological changes that so few of us are familiar with, but I would like to stress what Dr. Elmore said this morning, that every practitioner of medicine should be able to use an ophthalmoscope. No later than this past week I had a case of albuminuric retinitis, which is a late manifestation of Bright's disease. Intraocular manifestations are important in many systemic diseases. I think those of us who do surgery are more vitally interested in intraocular findings than the general practitioner, because in them we frequently get a definite line on intracranial disease when we can do it by no other means. Intracranial tumors practically always show optic neuritis. Frequently it is almost impossible to differentiate between choked disc, optic papillitis, and neuritis of the optic nerve head, but there is a difference, and the differentiation helps to decide whether we are dealing with Bright's disease, or whether we may expect to encounter changes in the brain or the presence of brain tumor.

I will not enter into a discussion of retinal hemorrhages from injury, or the localization of certain intracranial growths, bilateral hemianopsia, and things which can be determined by the man who is an expert in the use of the ophthalmoscope, except to emphasize this point—if you are unable to make a reliable diagnosis, call in help. These are physical findings and it is a question of interpreting these physical findings, and if you cannot do it get someone else to do it for you. Intraocular findings are neglected almost more than any other in medicine, and almost every man in a month has some cases on which the ophthalmoscope would throw valuable light.

A SIMPLE, RAPID PRECIPITIN TEST FOR THE DIAGNOSIS OF SYPHILIS.*

H. W. BUTLER, M. D.,

NEW ORLEANS.

In order to investigate the merits of the precipitation test for the diagnosis of syphilis, the Meinicke,¹ Sachs Georgi,² Sigma,³ Priestly,⁴ and Kahn⁵ precipitation methods were studied. The reactions of twelve hundred blood sera were compared, using the Kolmer-Wassermann method against the Kahn precipitation test. With some exceptions, the results were comparable.

During this study, a simple slide test was developed which has special advantages because of its simplicity. The specificity of the test resides entirely within the antigen. It has been possible to produce an antigen whereby certain new features are added to the test. Inactivation of the serum is unnecessary, and the results are immediate and easily read with the unaided eye.

Antigen Preparation. Fresh baby veal hearts are selected, and the superficial fat is removed. The muscle is ground in a sausage grinder, spread on paper and dried with the aid of an electric fan. After it is completely dried, it is powdered in a mortar and extracted with ether. Four hundred c.c. of ether are used to each 100 gm. of powdered heart. This is allowed to act for ten minutes, shaking frequently, and the ether is then filtered off. The material is extracted again three different times with 300 c.c. of ether, which is filtered off and discarded in each instance. The ether-extracted powdered heart muscle is now dried free from ether, and for each gram of the dry material, 5 c.c. of 95 per cent alcohol are added and masceration is

allowed to continue for three days at room temperature, after which the alcohol is filtered off and enough 95 per cent alcohol added to bring it up to the original volume. This constitutes the defatted alcoholic heart extract for the antigen. Six decigrams of cholesterol and 3 c.c. of glacial acetic acid are added for each 100 c.c. of the alcoholic extract. This is filtered after solution is effected and constitutes the finished special antigen for this test. This antigen seems to be stable for at least several weeks.

Technic. One c.c. of antigen is measured into a test tube and 2 c.c. of distilled water are measured into a second tube (normal saline can be used, but the solution is unstable). Mixing is effected by pouring the solution from one tube to the other, back and forth for at least six times.

Two drops of serum are placed upon a clean slide about the junction of the middle and outer third. With a pipette, used only for the antigen dilution, three drops of the dilution are placed upon the slide near, but not into the serum. These are mixed on the slide thoroughly with the end of a toothpick or other suitable instrument and the slide is slowly rocked for two minutes. If the serum is positive, a characteristic granular precipitate which can be easily seen, develops during the rocking process. If negative, no specific precipitate forms within the two minute time limit.

Other dilutions can be made to check results if desired, i. e., one drop of serum to five of antigen dilution or three drops of serum to two of antigen dilution, none of which should show the precipitate if negative. Occasionally a positive serum is more definite in one of these other dilutions. Negative tests should not be read after drying begins, because some sera become granular when the preparation is concentrated. If only one dilution is used on a blood, the one containing two drops of serum and three drops of antigen dilution is the one which we have found to be most sensitive. The other dilutions are neces-

*Read before the Orleans Parish Medical Society, May 24th, 1926.

†From the Department of Medicine, School of Medicine, Tulane University of Louisiana.

sary in an occasional blood, probably because of the variation in the range of the zone of inhibition.

RESULTS OF THE WASSERMANN, KAHN
AND SLIDE TESTS IN 500 SERA.

	Wassermann	Kahn	Slide
379	—	—	—
34	++++	++++	++++
10	++++ (Not enough serum)	++++	++++
1	+++	+++	+++
8	++	+	+
1	+++++	++	—
10	—	++++	++++
8	—	++++	—
4	—	—	++
3	anti-comp.	++++	++++
1	anti-comp	—	—
1	+++++	Not tested	+++
1	+++	Not tested	+++
2	+++++	Not tested	+++
3	+++++	Not tested	++++
35	—	Not tested	—

500

Summary. A modification of the precipitin test is presented, which shows a high degree of selectivity for Wassermann positive bloods. This test is simple and easy to perform, factors which greatly enhance its practical value, as compared with other methods of testing the blood for syphilis.

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4. Priestley, A. H.: Slide Precipitation Test for Syphilis, Lancet 1: 1260 (June 23) 1923.
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DISCUSSION.

Dr. Bass: The test which Dr. Butler has devised and which may properly be called the Butler test has the great advantage of being so simple and practical that it will be available to all who wish to use it. It places in the hands of the physician, wherever he may be located, a laboratory test for syphilis which present information indicates, is as significant or dependable as any one of the other tests now available.

Even if further experience should prove it

not to be quite as sensitive as other complicated strictly laboratory tests, the simplicity and availability of this one would indicate a large field of usefulness for it.

Dr. F. M. Johns: I should like to compliment Dr. Butler on his practical, new test. We have been searching for a precipitation test for many years—precipitation tests have been proposed from year to year, and I believe for the first time we have been given in a practical form, a real precipitation test. I think it is quite a different test from the Kahn and other tests—I think it is much more simple and much more reliable. For the present, I believe, it would be a little bit unwise to sidetrack the Wassermann, but as a means to safeguard the Wassermann, I think this test should be performed as a routine.

Dr. R. L. Gordon: The laboratory side of this subject has been discussed thoroughly, however speaking from the genito-urinary man's standpoint, such a simple test for syphilis should not be discarded or cast lightly aside.

Most of the men here will listen to the technic but will think they can't use it, but it is really very simple. Any man doing genito-urinary work knows that patients are prone to lie about, or be in ignorance of their initial infection. Here is a test that is useful not only to the examining physician, but also has a sociological standpoint, for by its use we may often be able to discover unsuspected syphilis and do the patient a lot of good.

If this test be done on a patient and found to be positive, I believe it would be a good plan to have it clinched with a Wassermann before beginning treatment. Such a simple test will not only aid in the diagnosis but will help you to make more money for yourselves, as you all know we miss much by mere cursory office examinations and not properly checking back on our patients. This is a test that you can easily do and no doubt you will be surprised at the number of overlooked luetics that you will discover.

Dr. Butler should be commended for trying to simplify laboratory medicine. Most of us look upon the Wassermann reaction as an art and hidden mystery and a few of us understand it. Anybody can do what Dr. Butler has outlined tonight, and no doubt it will at least pay the genito-urinary man to become familiar with the test and at least give it a fair trial.

Dr. H. W. Butler (closing): I do not urge you to use the test but I am sure that it will be of great assistance to you in your diagnostic work.

FURTHER FALLACIES OF THE SHEPPARD-TOWNER PROPAGANDA.

WILLIAM C. WOODWARD, M. D.,

*Executive Secretary, Bureau of Legal Medicine
and Legislation of the American Medical
Association,*

CHICAGO.

1. *In support of pending legislation to authorize appropriations to carry the Sheppard-Towner Act into effect for two years beyond the date originally set for it to expire, it is urged that this is merely a temporary expedient, designed to prevent the loss of the money and effort already expended under the Act. The record shows, however, that is not the case. The extension of the Sheppard-Towner Act now sought, for two years only, is merely one of a series of extensions that will be sought if this extension be granted. In fact, proponents of the Sheppard-Towner plan regard the Act as permanent legislation.*

In the report of the hearing before the Committee on Interstate and Foreign Commerce, House of Representatives, January 14, 1926, on H. R. 7555, the bill authorizing further appropriations for carrying the Sheppard-Towner Act into effect, on page 51, we find the following statement by Miss Grace Abbott, Chief of the Children's Bureau:

"The committee is familiar with the fact that the legislation enacted in the maternity and infancy act is permanent; the only thing that is not permanent is the authorized appropriation for the five-year period."

In the Congressional Record, April 5, 1926, page 6725, the same view was stated by Representative Barkley, when he spoke in support of the bill:

"My only regret is that this authorization is limited to two years. I would advise gentlemen of the fact that this is permanent legislation. The Sheppard-Towner bill is a permanent law. It only provided originally

*for a five-year authorization of appropriations. This merely extends the authorization two years, but the law itself is permanent law. * * **"

The same view was adopted by Senator Sheppard, in the *Congressional Record*, April 14, 1926, page 7254:

"As to the present status of the measure, let me add that, after consultation with the Budget Bureau and the President, the Secretary of Labor transmitted to Congress a recommendation for the continuation of the appropriations under the maternity act for two additional years. The act itself is permanent legislation."

It could not well be made clearer that the proponents of this legislation expect to keep the Sheppard-Towner plan as a permanent part of our Federal organization. But whether they do or do not plan to go that far, it is clear that they have no intention of abandoning the scheme at the end of the two years extension they now seek. For turning to the printed report of the hearing before the Committee on Interstate and Foreign Commerce, House of Representatives, we find the following:

"Mr. Newton. Now this further question. Do you consider that the two years is sufficient?"

"Miss Abbott. Well, I do not consider it sufficient if it is to end at the two-year period. I did not think in asking that period of time that that was the intention either of the Secretary of (or) the President that there was to be no further extension after the two-year period." Page 12.

* * * * *

"Mr. Lea. What time would you specify for a certainty that, in your judgment, the United States should remain in this work?"

"Miss Abbott. Well, I do not want to specify for a certainty.

"Mr. Lea. Do you think four years?"

"Miss Abbott. No; I would rather say five as the time that the Government would without question need to continue the work.

"Mr. Lea. You are certain that the Government should stay in for five years?

"Miss Abbott. Personally, I am; yes. But I am supporting the recommendation of the Secretary and the President for the two-year period, with a view to showing accomplishments and needs still existing at the end of that time." Page 14.

* * * * *

"Mr. Rayburn. You would not hazard an opinion on just when you think you could recommend that the Government go out of this supervision?

"Miss Abbott. No; because I think it is a factual thing. I am not a prophet, after all, as to when that condition may come to pass." Page 15.

With such testimony as that of Miss Abbott, the statement that has been made in support of the pending bill, that "there is no disposition to extend Federal co-operation beyond the next one or two years," is certainly without foundation.

2. *Attempts to justify an extension of the life of the Sheppard-Towner Act by showing the extent of activities in the field of maternal and infant hygiene since that act passed are inadequate unless they show the results of such activities, and this they do not do.*

"Child-health conferences," "school conferences," "infant clinics," "institutes," "public talks," "patterns distributed," "milk letters, with instructions to mothers," and similar activities (*Congressional Record*, April 14, 1926, pages 7254-7272) are at best merely agencies to conserve health and life. Evidence showing only that such activities are going on does not prove that they are accomplishing that result. Such evidence is even further from proving that such activities are being conducted efficiently and economically, or that

they are being conducted under the Sheppard-Towner Act better than they could have been conducted by the states alone. The evidence offered is inadequate, too, to permit intelligent judgment as to the relation of such activities to the Sheppard-Towner Act, for such evidence very generally fails to show the nature and extent of similar activities in the same jurisdiction before the act was passed.

3. *The assertions that have been made that there have been substantial reductions in infant and maternal mortality, with the implication that such reductions have been due to the Sheppard-Towner Act, are not supported by the evidence.*

In the *Congressional Record*, April 5, 1926, on page 6720, in the argument of Representative Newton in support of the Act, the following appears:

"Since the operation of this act there has been a substantial decrease in both the infant mortality and the maternity death rates."

Representative Newton then submits tables showing that in the three Sheppard-Towner years, 1922-1924, inclusive, the infant mortality rate for the registration area fell from 76 to 72, and the maternal mortality rate fell from 6.8 to 6.6. Such a decline could hardly be regarded as "substantial." But even if it were, it could not be accepted as an argument in favor of the Sheppard-Towner Act; for during the three years immediately preceding, namely, 1919-1921, inclusive, the infant mortality rate fell from 101 to 76, and the maternal mortality rate fell from 9.2 to 6.8. Of course, we know that the improvement shown by the figures last stated was only relative and that the decline was great because of the high mortality due to influenza in the year preceding the triennium named and from which the decline is computed. But what the improvement in 1922-1924 was due to, and how long it will continue, we do not know.

As a fallacious argument offered in support of the Sheppard-Towner bill recently passed by the House, we find the following by Representative Barkley, in the *Congressional Record*, April 5, 1926, page 6725:

"Taking the United States as a whole, in 1920, which was the year before the enactment of this law, the number of children who died in infancy amounted to 86 out of every 1,000 in the United States. In 1924, four years after the passage of this law, the death rate among children in the United States had been reduced from 86 to 71 per 1,000. This is a reduction of nearly 20 per cent in less than four years."

The Sheppard-Towner Act was not approved until Nov. 23, 1921. Obviously, its enactment could not have influenced the infant mortality rate for 1921. Why, then, did not Representative Barkley take the infant mortality rate for 1921 as a basis for comparison, instead of the infant mortality rate for 1920? The infant mortality rate for 1921 was 76. The decline, therefore, under the Sheppard-Towner regime was from 76 to 72. It was only 5 per cent in three years, not 20 per cent in less than four years as stated. And no evidence is offered to show that the Sheppard-Towner Act had anything to do with even such decline as did occur.

4. *Statements made to show the extent to which infant and maternal mortality are preventable, in support of an argument for the enactment of the pending legislation, are without adequate foundation.*

In the *Congressional Record*, March 31, 1926, page 6434, Senator Sheppard is quoted as referring to certain studies and investigations made by the Children's Bureau as follows:

"It was found that nearly 20,000 mothers and almost 200,000 infants under 1 year of age were dying in the United States every year from lack of proper knowledge as to the hygiene of maternity and infancy."

As a matter of fact, according to the Twenty-fourth Annual Report of the Bureau of the Census, covering Mortality Statistics, 1923, published in 1926, page 126, there were in the entire registration area of the United States in 1923, only 166,274 deaths of children less than one year old, from all causes.* The estimated population of the registration area was 96,986,371, and the estimated population of the entire continental United States was only 110,663,502. (See Report cited, page 8.) And yet, unless Senator Sheppard has misinformed us, investigations by the Children's Bureau disclosed the fact that almost 200,000 infants under one year of age die in the United States every year from lack of proper knowledge as to the hygiene of maternity and infancy. If the reported findings of the Children's Bureau are correct, where do the extra babies come from each year, who die from lack of proper knowledge? And where do all the babies come from who die every year from other causes?

A similar discrepancy exists with respect to maternal mortality. In support of the Sheppard-Towner Act, the Children's Bureau is quoted as authority for the statement that "nearly 20,000 mothers * * * were dying in the United States every year from lack of proper knowledge as to the hygiene of maternity and infancy." And yet the Report of the Census Bureau, cited above, page 176, shows that the total number of deaths in 1923 in the entire registration area, containing nearly nine-tenths of the population of the continental United States, from accidents of pregnancy and labor, and hemorrhage, blood poisoning and other conditions incident to puerperal state, was only 15,505.

5. *Comparisons between maternal mortality in the United States and maternal mortality in other countries, to the discredit of the United States, are not justified by comparable records.*

Referring to studies and investigations made by the Children's Bureau, Senator Sheppard, according to the *Congressional Record*, March 31, 1926, page 6434, said:

"Reports from the birth-registration area of the United States showed that from 1915 to 1920 the death rate of mothers from causes relating to maternity was increasing. It was shown that the death rate of mothers in the United States from these causes was the highest for any nation in the world for which recent figures could be obtained, and that seven foreign countries had infant death rates lower than the United States."

The reason for the increase in maternal mortality in 1920 as compared with maternal mortality in 1915 is not hard to find. In 1920 many expectant mothers died from influenza, and their deaths were charged to pregnancy; in 1915 influenza did not contribute to such mortality.

But probably the most overworked figures that have been used in the support of the Sheppard-Towner propaganda are such as those referred to above, purporting to show an exceedingly high maternal mortality rate in the United States as compared with the maternal mortality rates in other countries. Concerning comparisons of that kind, the Bureau of the Census has this to say:

"As already pointed out, the classification of deaths from puerperal causes differs greatly in different countries. Higher rates in one country than in another, therefore, do not necessarily mean higher mortality from these causes. However, as classification in a given country presumably differs but little from year to year, the rates do presumably serve as useful measures of mortality from these causes within the country itself.

"Comparing the rates of 1923 with those of 1915, for puerperal septicemia, the United States shows the same rate for both years, England and Wales a reduction of

13.3 per cent in its rate, Australia an increase of 30.8 per cent, New Zealand an increase of 137.5 per cent, and Scotland the same rate for both years. For other puerperal causes, the United States shows an increase of 5.4 per cent; England and Wales a decrease of 7.4 per cent; Australia an increase of 17.2 per cent; New Zealand a decrease of 15.4 per cent; and Scotland an increase of 7.1 per cent. *Twenty-fourth Annual Report, Bureau of the Census, Mortality Statistics, 1923, published in 1926, page 64.*

Just what comfort Sheppard-Towner propagandists can get out of these figures is hard to see.

6. *Even if it could be admitted that infant and maternal mortality rates were as bad as the proponents of the pending legislation assert, and that it is as easily reducible as some of them claim, there is no evidence to show that preventive measures can be applied more effectively by the Federal Government than by the State.*

So far as is known, not a single advance in methods for preventing infant and maternal mortality has been made by the Children's Bureau since the Sheppard-Towner Act was passed. It has merely adopted methods devised and in use by the several states and cities of the country. Obviously, supervision and control of such activities over the entire land area of the United States, approximately 3,000,000 square miles, by a federal bureau in Washington, must entail a heavy overhead expense—or must be supervision and control on paper only.

EXTRAOCULAR FOREIGN BODIES.

CAREY CHEEK, M. D.,

SPRINGFIELD, MISSOURI.

You will find this paper nontechnical. When I was invited to read a paper, I was told that it was to be before the General Assembly. If I had known I was to ap-

pear before your Section I would have prepared one more technical.

For some time I have been very much interested in the minor injuries of the eye, mainly because they are so numerous and also because they are treated in such a manner that complications such as ulcers, necessitating loss of time and impairment of vision are altogether too common.

A patient comes into the office and says he has "something" in his eye. He has arrived at this conclusion because he has one of these symptoms:

- (1) A scratching sensation in the eye, usually under the upper lid.
- (2) Pain in or around the eye.
- (3) Redness of the eye ball.
- (4) Light is painful to the eye.

Now one or all of these symptoms may be present and denote a foreign body present, or some other condition such as conjunctivitis in all of its forms, trachoma, hordeolums, chalazions, cysts along the lid margin, displaced cilia or abrasions of the cornea.

So the first thing to do in this case is the same as in all others, namely to diagnose the condition present. Anyone that has a good light, a magnifying loupe, as Berger's or Beebe's, and a 20 diopter lens to focus the light can locate any foreign body no matter how small it happens to be. Foreign bodies under the lids can be easily removed provided they are not located under the conjunctiva. When in the latter location it is my practice to catch them up with fixation forceps and split the conjunctiva and shell them out. If they hang in the conjunctiva and are not easily removed I snip away the piece of conjunctiva in which the foreign body is entangled. A suture can be put in place to approximate the two conjunctival surfaces if it is deemed necessary. If a particle of metal or rust stain has been in the cornea for several hours infection sets in with resulting death

of corneal epithelial cells. If a drop of 2% Fluorescein solution is instilled in these eyes this dead epithelium will stain, and will help you to locate the foreign body, as well as demarcate the infected area which should be removed along with the foreign body. This stain is also very useful in differentiating abrasions of the cornea from foreign bodies. All of you well remember when your professor in medical school was lecturing on foreign bodies in the cornea, he told you just to seat your patient facing the window and the distorted window reflex would tell you if a foreign body was present. Well this is true of large substances as beetle wings and boiler scales, but don't overlook half a dozen pieces of emery dust while using this method. Most all corporations are now compelling the employes to wear goggles and the foreign bodies that sift through the ventilating holes must be small.

No attempt should be made to remove a foreign body from the cornea without first using a local anesthetic. Of the list two are effective, Cocaine in a 4% solution, and Butyn in a 2% solution. I prefer the latter because it does not dilate the pupil and is not a narcotic. Two drops of either solution will thoroughly anesthetize the cornea in two minutes time.

As to the instrument to use in removing corneal foreign bodies, each one of us will probably have his choice. Personally I prefer a cataract knife. This is light, sharp and well balanced. This should be placed at an angle of 70 degrees to the cornea and with the point pressed firmly under the particle to be removed; then lift upward and outward. In this operation too many men are prone to scrape and jab in the general direction of the particle to be removed and trust to luck to dislodge it. This method destroys the epithelium over a large area and of course makes the eye painful and prolongs the healing time. We must remember that the majority of these patients are day workers, and if we care-

lessly disable them they are just that much worse off financially at payday. I have seen cases where the epithelium was scraped off of one-fourth of the cornea where one was removing a foreign body that perhaps did not measure over one-fourth of a millimeter across, in its greatest diameter. This of course is going to an extreme in carelessness. I once saw a young doctor going to the opposite extreme, and which I thought was almost as bad. He was directing a stream of water from a small syringe against an embedded particle of rust and attempting to remove it in this manner. Of course this was a useless method for a case of this kind. Naturally being curious, I asked him about his method. He said he was taught in medical school that this was the only method to use, as all instruments should be avoided as you were liable to perforate the cornea in using them. Well I have never yet gone into the anterior chamber in using an instrument, and I use sharp ones. A good way to check up on yourself is to instill a drop of fluorescein solution into the eye after you have removed a foreign body: this will tell you how much epithelium you have needlessly removed. Sometimes you will be surprised and mortified at what the stain will show.

After the foreign body has been removed from the cornea comes one of the most important points of this operation—namely, the after treatment. Formerly little or no attention was given to the eye unless an ulcer developed, and I am sorry to say that this complication happened rather frequently. Now when we are all thinking of preventing disease the same as of curing them, we prevent most all of these eyes from becoming infected. Among most men the prevalent treatment is to put a few drops of Argyrol solution, varying in strength from 5 to 12%, in the eye and letting it go at that. I have almost discontinued the use of this drug on account of its irritating effect on some eyes when

the silver is precipitated by the chemical action of the tears. Also I do not like the stain that is made around the wound. If your patient is seen by another physician he will see this stain and immediately conclude that you failed to remove all of the foreign body and he will take a further swipe at this thereby making a larger denuded area in the corneal epithelium, which of course results in a worse eye than was necessary. This second operation also loses you a patient for nothing will ever make him believe anything else but that you failed to do your job thoroughly in the first place.

At present I am using instead of the silver salts, 2% yellow oxide of mercury ointment as an antiseptic in the eye. I find this nonirritating; also it has the added advantage of being lubricating, which makes the scratching sensation less annoying. We all know that until the corneal wound heals this sensation persists, usually lasting about twelve hours in deep wounds.

Lastly I bandage the eye, using an eye pad fastened on with adhesive plaster. The bandaging the eye is contrary to the advice and practice of most of you I am well aware. The apponents say this is a dangerous procedure as infection is more liable to occur; I have not found this to be the case. I favor the bandage because the eye is more comfortable, all iris reflexes except the consensual being abolished; the movement of the eyeball are limited to the minimum. From the legal standpoint the bandage is absolutely necessary, and we must not forget that each patient we treat is a potential lawsuit in this day of easy judgments. About five years ago there was published in the A. M. A. Journal an account of a suit and judgment against a doctor, and the verdict rested on this one point. He had removed the foreign body skillfully and completely, and had put an antiseptic in the eye, but he had failed to put on a bandage. The Appeal Court sustained the verdict. At the present time there is a

suit pending in my town alleging this same fact, that the eye was not bandaged.

I tell my patients to leave the bandage on for 24 hours, and to expect the eye to feel scratchy for the first few hours. At the end of this time if the eye is still painful to return to me for another examination. In this way if any infection has occurred I can arrest it at once.

During the last two and one-third years, my partner, Dr. D. M. Huffman, and myself, have removed foreign bodies from the corneas of over twelve hundred patients, and with minor variations the above routine has been followed in all cases. These were made up of industrial people for the most part, the majority being employes' of the Frisco Railroad. Some of these foreign bodies had been in the eye for as long as four days, during which time well meaning friends and neighbors had attempted removal. In none of these cases did an ulcer of any consequence develop, where none was present when the case was first seen.

To summarize I will say, (1) Inflict as little trauma to the eye as possible.

(2) Put a lubricating antiseptic in the eye following the operation.

(3) Bandage the eye without fail where a foreign body has been removed from the cornea.

DISCUSSION.

Dr. H. L. Arnold (Meridian): One or two points I would like to emphasize. First, that when you remove a foreign body from the eye you must have a good light; you must have a magnifying glass and a condensing lens, because you cannot do the work unless you see what you are doing.

In regard to the anaesthetic, we have found butyn, 2 per cent., more satisfactory than cocaine.

One point about fluorescein—most of us do not have fluorescein all the time, but if you use 1 per cent. mercurochrome in the eye you will get a stain that shows it up as well as fluorescein.

I think the point about the bandage is well taken. They will heal quicker and more satisfactorily if they are bandaged.

SOME OBSERVATIONS ON THE KAHN PRECIPITATION TEST.*

C. A. PALMERLEE,
JACKSON, MISS.

During the last four years a number of different articles dealing with a precipitin test for syphilis have appeared. That procedure developed by R. L. Kahn appears to give the most satisfactory results. In the fall of 1925 this method was adopted by the Michigan Department of Health, and the Army and Navy laboratories as the standard test for the diagnosis of syphilis.

The comparisons between the Wassermann tests and the Precipitin reactions covered in this report were made, by me, over a period of about three and a half years and are almost entirely from hospital cases. The Wasserman technique used was at first the U. S. Public Health Service method with ice box fixation, but in the main Kolmer's technique run with three antigens was used. The precipitin tests were run principally with Kahn's second method and at first under his personal observation. In all cases the precipitin tests were "read" independently and before the Wasserman technique was completed. The sera, being from hospital cases, were practically always fresh and only rarely showed hemolysis.

In as far as data regarding positive reactions was obtainable from the various physicians, cases were classified as follows:

†Lues I. Primary cases clinically positive or verified by the darkfield examination.

Number of positive reactions, 14.

Wasserman 4 plus and Kahn 4 plus.....	9
“ 2 “ “ “ 2 “.....	3
“ 4 “ “ “ 2 “.....	1
“ 2 “ “ “ 4 “.....	1

Lues II. Clinical cases of secondary syphilis.

Number of positive reactions, 27.

Wasserman 4 plus and Kahn 4 plus..... 27
Hereditary. Clinically diagnosed with in five cases the parents included in this list.

Number of positive reactions, 9.

Wasserman 4 plus and Kahn 4 plus..... 9

†For convenience in interpretation in this report three and four plus positive reactions are considered identical.

*From The Pathological Laboratory, Mississippi Baptist Hospital, Jackson, Mississippi.

Lues III. Cases giving a definite or suspicious history with some findings justifying a diagnosis of latent or tertiary syphilis.

Number of positive reactions, 175.

Wasserman 4 plus and Kahn 4 plus.....	142
“ 4 “ “ “ 2 “	5
“ 2 “ “ “ 4 “	9
“ 2 “ “ “ Negative.....	1
“ Negative “ “ 4 “	3
“ 1 or 2 plus and Kahn 1 or 2 plus.....	11
“ A. C. and Kahn 4 plus.....	4

Cases in which no history was obtained.

Number of positive reactions, 70.

Wasserman 4 plus and Kahn 4 plus.....	57
“ 4 “ “ “ 2 “	2
“ 2 “ “ “ 4 “	3
“ 4 “ “ “ Negative.....	2
“ 1 or 2 plus and Kahn 1 or 2 plus.....	6

Cases selected while undergoing treatment.

Number of positive reactions, 124.

Wasserman 4 plus and Kahn 4 plus.....	56
“ 4 “ “ “ 2 “	13
“ 2 “ “ “ 4 “	2
“ 2 “ “ “ Negative.....	6
“ Negative “ “ 2 plus.....	2
“ 1 or 2 plus and Kahn 1 or 2 plus.....	37
“ 4 plus and Kahn Negative.....	3
“ A. C. and Kahn 4 plus.....	5

Total number of comparative tests run, 2828.

Wasserman and Kahn both negative	2402	85 %
Wasserman and Kahn both weakly or strongly positive....	357	12.5 %
Wasserman strongly positive and Kahn negative	5	0.2 %
Wasserman negative and Kahn strongly positive	3	0.1 %
Wasserman weakly positive and Kahn strongly positive	15	0.5 %
Wasserman strongly positive and Kahn weakly positive	21	0.8 %
Wasserman weakly positive and Kahn negative	7	0.3 %
Wasserman negative and Kahn weakly positive	2	0.1 %
Wasserman anti-complementary and Kahn positive	9	0.3 %
Wasserman anti-complementary and Kahn negative	7	0.2 %

CONCLUSIONS.

1. As observed in hospital cases the Kahn precipitin test and the Wasserman test probably check as closely as any two Wasserman systems.

2. A report can be given in an hour's time which is very important in emergencies.

3. It gives a report in anti-complementary Wassermans.

4. It gives a considerable satisfaction to the laboratorian in having an additional check on his Wasserman system.

5. It should be reported in connection with all Wasserman reports so that the clinician may have the opportunity of observing its accuracy in his own practice.

6. Essentials to the accuracy of the test are carefully standardized antigens, accurate technique, and a reasonable experience in reading the reactions.

A MILD EPIDEMIC OF JAUNDICE IN LOUISIANA.*†

JOHN H. MUSSER, M. D.,

AND

CHARLES J. MIANGOLARRA, M. D.,

NEW ORLEANS.

Acute infectious jaundice has been recognized for many years as an epidemic disease. A careful study was made of the distribution of the epidemics in the United States by Blumer‡ in 1923, who states that this disease, infectious jaundice, has occurred epidemically in every state in the Union except six, of which Louisiana is one. On account of the fact that epidemics have not been described in New Orleans or in Louisiana, we thought it might be of interest to record a mild epidemic which occurred, so far as we can determine, in the months of October and November, 1925. We have the record of only fourteen cases,

*Read before the Orleans Parish Medical Society, May 10th, 1926.

†From the Department of Medicine, School of Medicine, Tulane University of Louisiana.

‡Blumer, George: Infectious Jaundice in the United States, a Summarized Report. Tr. Assn. Am. Phys., 1923, 38: 189.

but those cases all seemed to be of the type which has been described as infectious jaundice, in which the causative organism, whatever it may be, is transferred from one individual to another. The organism, as Blumer says, is unknown.

Epidemiological Studies. Some of the epidemics of jaundice which have occurred in this country have been extensively studied. While many of them have been found to be entirely a family outbreak, others have attained the dignity of a state-wide epidemic such as occurred in New York state in the fall of 1921 and 1922. Variations may occur between these two extremes, as an outbreak in an institution or in a county.

Etiology. Blumer's figures will be mentioned here because he has made an extensive study of the epidemics as they have occurred in different sections of the country. He has found that 72 per cent of all the outbreaks occurred during the fall and early winter months and only 6 per cent in the spring, while 10 per cent occurred during the summer.

The disease is essentially a disease of childhood or young adult life. Again, to quote Blumer's figures, it was found that 70 per cent of the patients in fifty epidemics he studied were children or young adults.

The disease is apparently spread by direct contact. It has been supposed that rats might be the carriers of the disease, but epidemics have occurred in this country where rats and other rodents do not live. The direct contact from individual to individual certainly has sufficient weight to explain this method of the propagation of the disease.

Pathogenesis. The explanation of the usual cases of mild jaundice is that there is a catarrh of the duodenum which occasions an ascending catarrh of the common duct, causing obstruction of the duct and the subsequent inability of the bile to

pass through the usual canals. This is a theory that was advanced by Virchow many years ago and has been followed blindly since. In the very few cases of so-called catarrhal jaundice that have come to autopsy, there has been no catarrh of the common duct; but there were pathological changes which produced an obstruction of the bile capillaries secondary to injury of the liver cells, which were sufficient to explain the cause of the jaundice. Eppinger explains the jaundice by tears occurring in the bile capillary radicles, as a result of which and as a result of the primary necrosis of the liver cells from infection, there would be a pouring out of bile into the lymph canals, the bile consequently entering the general circulation and giving rise to jaundice. The theory of the origin of the disease as the result of an infection is substantiated by several factors, one or two of which might be accentuated, as the onset and the evidence of transference from individual to individual. Complete obstruction to the entrance of bile into the duodenum is rare in these cases, but would occur if a mucous plug was responsible for the obstructed common duct. As a result of the extensive studies that have been made in the etiology of jaundice it has been shown very definitely that the bile arises largely as a result of destruction of red cells. In a great many cases there is a conjoint injury to liver cells, but this destruction of liver cells is not essential to the production of jaundice.

The type of infectious jaundice which is a result of spirochetal involvement of the liver cells does not enter into the discussion here, as Wile's disease is a specific and definite entity, resembling somewhat infectious jaundice but caused by a specific spirochete, the *Leptospira icterohemorrhagiae*, which can be demonstrated in the blood and in the urine in cases in which this disease occurs. Furthermore, it is of interest to note that these cases are always very much more severe than infectious jaundice and may effect any age period.

Clinical Manifestations. Infectious jaundice varies considerably in its expression, but it is usually that of a mild infection. The onset is rather sudden and it will be seen from the history of the cases we have appended here that usually there is an associated gastro-intestinal disturbance. In practically all of our cases the gastro-intestinal symptoms and the jaundice were the only two outstanding features, although fever occurred apparently in a few of the cases, if we can judge from the malaise which occurred at the onset of the disease. Except for these two symptoms, and in here we include also the symptoms that result from jaundice, there was nothing of practical moment. In none of the cases of which we have any accurate histories did clay colored stools occur at any time, though in severe cases the stools were lighter than normal and the urine was darker. Physical examination showed a swollen enlarged liver but except for this nothing of moment. The disease was very mild in the cases we observed and lasted about three weeks, when the jaundice gradually subsided. The cases were so mild that they did not require hospitalization with three exceptions. Two of these cases were on my ward and we did not detect any abnormality by any of the usual methods of testing patients with jaundice. The van den Bergh reaction showed a delayed reaction which was indicative of blood change rather than simple obstruction. Spirochetes were not found in the blood nor urine.

Case Reports. The patients were not all seen by us, but through the kindness of our colleagues we were able to collect these cases or from the word of mouth of the patients with regard to others who had jaundice in their immediate neighborhood or family. Dr. George Bel has told us of two cases that he has seen.

Case 1. Eyrie B., a young man 26 years of age, was admitted to Charity Hospital on the 14th of August with a history of having had jaundice for four days. Jaundice was associated

with pain in his right side, weakness, constipation and loss of appetite. He remained in the hospital for a month without improvement and on account of the persistency of the jaundice it was thought that he had an obstruction of the common duct. When the abdomen was opened, it was found that the gall bladder, the cystic and the hepatic ducts were all negative. The liver was enlarged and the bile that was drained from the gall bladder was of normal color. In a few days he began to show improvement, which continued, and he was discharged from the hospital on the 20th of October. All the findings while at the hospital, including roentgen-ray examinations, urine examination, etc., were negative except those associated with retention of bile.

Case 2. Elbert B., a brother of Eyrie B., an elevator boy, 19 years of age, came to the medical clinic on the 10th of October. He said that he saw his brother in the hospital two weeks before and that he developed jaundice about ten days later. The yellow discoloration of the sclera was the first thing that called his attention to any abnormality. His appetite was good, there was no indigestion, bowels regular, did not feel badly in any way. Thinks that he had a slight fever for a couple of days at the time the jaundice appeared. He also called attention to the darkness of the urine, though stools show but little change. The other findings in his history were not of moment. The physical examination showed the yellow discoloration of the skin and of the sclera while the liver was swollen and palpable but not tender. By the 30th of October jaundice was nearly gone and by the 6th of November almost entirely gone.

Case 3. Adolph., a school boy, 14 years of age, says that three weeks before admission he helped a boy who was jaundiced mow the grass. A week later he also developed jaundice. He was not very sick and were it not for the fact that his eyes were so yellow his mother would not have brought him to the clinic on October 12, 1925. Urine was yellow, stools dark. His appetite was good, as was the digestion. Yellow discoloration of the sclera and slightly swollen liver were the only abnormalities detected in physical examination. By the 30th of October his jaundice was entirely gone.

Case 4. Richard S., student, age 19, was admitted to Charity Hospital November 19th because he was jaundiced. Aside from this jaundice he felt perfectly well and if he had not been scared by the yellowness of the skin and the eyes he would not have come to the hospital. When told of the mildness of the attack, he left the hospital that same day. Seen two weeks later, he was still jaundiced but was doing everything

that he had been accustomed to do before he was taken sick and had no complaints. From him we also got the history of a young man in his boarding house who also developed jaundice about ten days after his attack.

Case 5. Nick B., a man 40 years of age, was admitted to the Charity Hospital on the 30th of September, 1925, and was discharged the 3rd of November. This patient, on account of more intense jaundice and because he was the first case recognized by us, was kept in the hospital a longer period of time than the other patients. His jaundice had been existent for several weeks before he was admitted to the hospital and he had the usual symptoms of obstructive jaundice: loss of appetite, constipation, high colored stools, high colored urine, itching of the skin, head and so on. He also gave a history of having had syphilis five years ago, shortly after this being treated seven times with arsphenamin. During his stay in the hospital he had no fever. The total leucocytes were 12,250, of which 66 per cent were polymorphonuclears. Van den Bergh reaction—delayed direct—10 units, immediate indirect 12 units. The Wassermann was negative. The urine showed no spirochetes on repeated examination. This patient was treated with duodenal drainage. Jaundice gradually subsided and he has had no further trouble. Roentgenograms were negative.

Case 6. Peter M., a small boy, aged 13, was admitted to Charity Hospital in October on account of jaundice. He had nausea, vomiting after meals and pain in the right upper part of his abdomen. Except for the jaundice and the swollen liver, physical and laboratory examinations were entirely negative. The jaundice apparently attained its maximum about five days after he came into the hospital and then gradually subsided. The only treatment of note was the non-surgical drainage of the gall bladder. The boy did not have any other members of his family attacked with jaundice nor did he know of anyone who had it.

Case 7. Miss V., a nurse at the Hotel Dieu, began to feel badly, had headache, nausea, anorexia during the last week of October which was followed by a rather severe jaundice which reached its height at the end of the first week of her illness and then gradually subsided. She was in bed for two weeks. Except for the jaundice, there was nothing of note in her illness. This patient was also treated with non-surgical drainage for two days. So far as we can determine, there was no history of contact nor did any other cases of jaundice follow in this institution.

Case 8. Dr. George Bel was good enough to give us the details of this case. Mary H., a school

girl, aged 15 years, was taken sick in the last week of October, 1925, with loss of appetite, a temperature of 101°, abdominal pains with nausea and vomiting. Eyes, mucous membranes and skin were jaundiced. This jaundice reached its height in one week and the young lady was in good condition and up and around in two weeks. She was treated with Epsom salts. Dr. Bel tells us that this child gave a history of playing with two children who at the time she became ill were sick at home with "yellow jaundice."

Case 9. William E., a friend of Richard S. (Case 4), living in the same house with him, was attacked with jaundice about two weeks after Mr. S. At this time he complained of no other symptoms except the jaundice. Attack commenced a few days before November 26th and his jaundice had cleared up in about four weeks. During the entire attack he was up and around and never ceased carrying on his usual occupation. From the boarding house keeper of William E. we got a very interesting history; that her brother had had an attack of jaundice when he was at Lake Charles and shortly before she returned to New Orleans to open up a students' boarding house. Her brother was a young man about 22 years of age. This history is of particular interest because of the possibility that the boarding house keeper might have been a carrier of the hypothetical causative organism. She was in close contact with her brother when his attack of jaundice developed. A few days later she left for New Orleans and some weeks later two cases of jaundice developed in the boarding house of which she was the mistress. This woman also told us that during the latter part of the summer, to quote her own words, "there were dozens and dozens of cases of jaundice in and around Lake Charles."

Additional Data. The information given us by the boarding house keeper of Richard S. and William E. (Cases 4 and 9) led us to send a circular letter to the physicians of Lake Charles, a city of about 15,000 population, relative to the incidence of the disease in that neighborhood. Of the gentlemen who were kind enough to answer our letter, some had and some had not seen cases of jaundice in or in the vicinity of Lake Charles. Dr. L. A. Hebert wrote that he had seen in consultation mild cases of jaundice in and about Calcasieu Parish. Dr. W. C. Hayes had seen "several cases of acute jaundice." Dr. T. H. Wat-

kins wrote that he saw ten cases of jaundice and that the physicians from the surrounding towns had seen a few cases. "I believe that a liberal estimate of cases here would probably be forty or fifty." Dr. W. L. Fisher, of Lake Charles, said that "we had quite an epidemic about Iowa, La., this last summer and fall. I probably saw about 20 cases myself. These cases were of all ages—the first epidemic of jaundice I ever saw in 32 years of my practice." Dr. J. D. Tuten saw "six cases of an extremely mild type," and Dr. J. G. Martin wrote that Dr. Holcombe has had eight cases.

A case of jaundice of this type recently admitted to the Charity Hospital from Jeanerette, La., some 150 miles north of New Orleans, led us to write Dr. Joe Raphiel. He answered that he had seen seven cases in the spring and summer of 1925, three among his own children and four other cases in his practice. The jaundice occurred only among children, whose ages varied from one year to nine. The symptoms were very mild and cleared up in about ten days.

Summary. We have recounted here the history of nine cases of infectious jaundice occurring in New Orleans, which we either obtained from the patients who were under our observation or from medical colleagues. We have on record five other cases in which we were not able to get a detailed history. These fourteen cases all occurred about the time of the year (Fall) in which epidemic jaundice is likely to occur. In six of them we obtained a history of direct contact with some individual who had an attack of jaundice. Direct contact apparently played the most important role in the production of this mild epidemic, as there was no other etiological factor which we were able to develop or to trace which might have been responsible for the development of the disease.

In addition to these cases occurring in New Orleans, record is made of mild epi-

demics occurring elsewhere in Louisiana (Lake Charles and Jeanerette). It is highly probable that many other communities in Louisiana were also the seat of slight epidemics.

DISCUSSION.

Dr. Urban Maes: Dr. Musser was kind enough to spare me in his paper, but I recognize that one of the cases he refers to occurred on my service. The patient, a young man, was badly jaundiced, with a marked anorexia and other typical symptoms, and operation seemed indicated. Laparotomy revealed no gross pathology, and, concluding that the condition was one of catarrhal jaundice, I did a cholecystostomy. The gall-bladder was apparently perfectly normal, the cystic duct was not palpable, the liver showed no pathology, and there seemed no indication whatsoever for a more radical procedure. His immediate recovery was uneventful, but later he returned to the hospital complaining of gastric distress and a persistent pain in the upper right abdomen. A second laparotomy showed the gall-bladder embedded in a mass of adhesions; indeed I have never seen a more marked pericholecystic involvement. Prompt and apparently permanent recovery followed a cholecystectomy.

We have on record a fair number of cases which showed marked pericholecystic adhesions, probably the result of an infective cholecystitis following a previous cholecystostomy. In this particular case the gall-bladder was still functioning and contained yellow bile, but the extent of the adhesions made extirpation necessary.

I did not know of the existence of epidemic jaundice until Dr. Musser called it to my attention.

Dr. Chaille Jamison: I want to call attention of the Society to a case that was reported at one of the monthly meetings of the Mercy Hospital Staff. The case caused considerable comment and discussion at the time of the report.

The patient was admitted to the hospital from one of the ships by a first class diagnostician, who attended him during his stay at the hospital. The man was jaundiced; had no fever or pain. It looked like a simple case of catarrhal jaundice. He remained in the hospital simply because he had no other place to go. He developed no symptoms to disturb anyone for a week or ten days. He then developed, suddenly, delirium, and went into a coma. He presented a picture of acute yellow atrophy and died within two days. Unfortunately, he was not autopsied. Apparently, this was a case of acute yellow atrophy of the liver, following what we are in the habit of calling catarrhal jaundice.

SHALL THE GENERAL PRACTICE OF MEDICINE BE CONSIDERED A SPECIALTY.*

J. A. RAYBURN, M. D.,

ECRU, MISS.

In this day of highly developed specialization in all lines of endeavor, the title to this article is a very pertinent question.

Since the world seems to be demanding that men be experts or specialists in their particular lines, I am very much pleased to state that the question may easily be answered in the affirmative.

I do not wish to cast aspersions, or say anything that might in the least hinder the high class service given by the various specialists. But being a general practitioner myself I wish to do my bit in upholding the dignity of this special and very important branch of medicine, its wholesome traditions and lofty covenants as enunciated by our medical fathers, which has placed organized medicine on the high plane it now enjoys in the scheme of all established and orderly Governments, and has worked for the uplift of humanity wherever it may exist.

It is just a bit humiliating to be looked upon with an air of condescension by those who practice the limited specialties, they say by their attitudes that you are a necessary evil and must be tolerated by your superiors, of whom they are, some of them (not all of them) assuming an attitude of very exaggerated importance as if the whole scheme of things depended on them and their special branch.

The various specialists through their cunning stratagems have taught the public, that if they have not had the services of one or more specialists, whatever may have been done for them is certainly not scientific. In this they are most probably

correct for I will say without fear of successful contradiction, that the general practitioner if he has the proper training and perspective, is certainly the most highly developed specialist in the whole domain of medical practice.

He must know his stuff. He must be able to understand the human fancies and foibles, and make a therapeutic application that will lessen and cure diseases and drive away sorrows and woes. In fact, in addition to his academic training in the science of medicine, he must possess an especially refined diplomatic sense, and understand thoroughly the variations in human temperaments, and be able to control to an appreciable extent those temperamental varieties in a way that will institute in the individual a mental, moral and physical stability, so that his or her life will completely harmonize. Does this not require special study and a refined ability? Echo from your conscience, dear confreres, answers me almost audibly, yes.

There are certain diseases which produce definite disability, and which cannot be relieved by the surgeon's knife, neither can the radiologist or roentgenologist give them relief, nor can any of the various so-called specialists. In fact, they can **only** be relieved by the proper therapeutics, and humanizing and harmonizing influence of the general practitioner, who is himself a specialist of the highest order.

The surgeon, the microscopist, roentgenologist, urologist, gynecologist, and the various ologists, are very useful and have a very conspicuous place, but no one of them nor all of them as a unit can take the place of the general practitioner, who has made a special study of the pathological and functional disabilities of man as a whole. His range of knowledge covers a much wider field, and gives him a much clearer insight into the real needs of each individual patient, as a sick person and a human being all in one.

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

In this connection let me quote an excerpt from the memoirs of the late Vice-President, Thos. R. Marshall, as follows: And yet there is just one regret of the passing of the old country doctor, that is with him the family physician is about to pass; he was the man who knew your peculiarities, your idiosyncrasies, and your life. He was as much bound up in your destiny as your minister or your lawyer. He was adviser, councillor, friend. It is nothing against science; nothing against these specialists; nothing against their accuracy, and it is not regret over the fees we pay; but I do sometimes long to have an old family doctor that could really find out what is the matter with me, without passing me down the line of from 15 to 20 experts.

Gentlemen, this is certainly an indictment, which is clearly in favor of the general practitioner, and coming from one so high in the councils of the nation should mean something.

If it be true that the general practitioner is passing, then we are certainly facing a tragedy, for as you gentlemen very well know, he is the bedrock, and cannot be dispensed with without seriously affecting the whole fabric of medicine.

I have no fight to make against the specialists, I am only asking that they treat us as their equal, which we are, and give us the same hearty co-operation, which they expect us to give them and which it is our duty to give, in the interest of humanity, and as brothers of the same craft.

Men in the present field of specialism, the majority of them live in the cold field of science. They can name all the bugs that the microscope knows, but they can't fill the place in the chair that may become vacant, beside my lone bedside to comfort my woes.

The medical group has a commercialized bearing where the case is reported by num-

ber or card, but they lack the soul touch of the general practitioner who holds every patient in tender regard.

No! The general practitioner is not passing, they shall not pass. For the loving Creator will ever impress the need, and in some way keep the torch of right and reason burning, to uphold the hands of a profession so important to suffering humanity.

I believe the time is coming, and in the near future, when the schools of medicine will particularly emphasize the importance of this special branch of medicine, and through it the practical application of science and human sympathy in a scientific way for the relief of the ailments of mankind.

We court research and new advances, but we must remember that we are parts of one stupendous whole and that it requires breadth of intellect not to take the part for the whole. I am not asking that we be placed above where we rightfully belong, but I am asking for the sake of right, that our brothers of the same fraternity help us establish and maintain our rightful sphere, for we are specialists in our field just as the surgeon, or any other branch is specialists, in their lines.

I maintain, and there are many who will bear me out in this, that General Practice is the most important branch of medicine, and anything that has a tendency to undermine and destroy its prestige and usefulness, certainly strikes at the fundamentals of medicine, and consequently endangers the whole structure.

Men should be loyal to their specialty, of course, but loyal first and always to medicine. For it would be foolish in the extreme to go to seed in a one-idea field.

In these days of super-specialism, it has almost become a reproach to be called a general practitioner, but we will not surrender our birthright as diagnosticians. The pendulum will surely swing where it

belongs, and we will be accorded the recognition that is justly ours. The general practitioner is the highest type of specialist, and his place is at the front, the one-idea specialist to the rear.

DISCUSSION.

Dr. O. N. Arrington (Brookhaven): I would like to thank the doctor for bringing this subject before us. As he said, we hear too much about specialists. Specialists we need, but the old-time practitioner of medicine and surgery must stay with us. He is the broadest and most liberal thinker in the world, and he is closest to the hearts of the people.

I enjoyed every word the doctor said and wish to express my appreciation of the paper.

Dr. R. C. Elmore (Durant): I enjoyed the doctor's paper, first, because I belong to that class known as general practitioners. One of the most illuminating treatises I have read along this line is an article by Dr. James B. Herrick of Chicago. You will find it in the February 2nd issue of the *Journal of the American Medical Association*. It was delivered before the Institute of Medicine in Chicago as his Presidential address and is entitled "The Clinician of the Future." When the chairman called for discussion I hesitated because I wanted to hear from some of the specialists. It may be the specialists are not awake to a realization of the readjustment, the transition that is taking place in the practice of medicine. Dr. Herrick showed plainly in this article that he is awake to this change, this transition, and he bespeaks a more cordial relationship between the specialist and general practitioner of the future along all lines—professional, financial and otherwise.

Personally, I have no grudge against the specialists; some of the best friends I have in the medical fraternity are specialists. I have no grudge whatever, but I do know there are conditions existing which are bound to be relieved.

A case in point: I live in a small town. I am called to see a case,—say this morning, which I think is possibly appendicitis or acute abdomen. I tell the patient I will come back later and make further examination and advise him what to do. Later I return and tell him that I think he has appendicitis and should go to a hospital. Then we start the machinery for getting him into the hospital,—from a small town, which takes two or three hours time, I possibly take him to the train in my car; telephone for a room and communicate with the surgeon. He arrives at the hospital, and the first thing he has to do

is to pay \$10 for the operating room fee; \$5 for the anaesthetist; \$3 for the laboratory fee; \$5 a day for the room; \$6 a day for a special nurse, and from \$100 to \$200 for the surgeon's fee. He comes back in about ten days after the operation, presumably all right, and he says: "Doc, I will pay you as soon as I can, but those fellows strapped me down there." Maybe my bill is only \$5, and in two or three months he will come around and give me \$1.20 and promise to pay the balance as soon as he can.

I have no grudge and no sore toes to exhibit, but I maintain these are conditions we have to meet, and there must be a readjustment all down the line.

Dr. R. M. Adams (Ripley): Certainly the greatest field for service confronts the general practitioner, if he will but visualize and demand the same high standard of equipment that the specialist does. But certainly there is no greater place for altruism than confronts the general practitioner. He certainly cannot be allured into this field of service because of its remunerations; he recognizes his limitations and he should appreciate and recognize the specialist in his sphere of activity. There should be no conflict. There is room for the very best that is in each of them, and they together should carry this great work of serving humanity to perfection. The general practitioner certainly cannot do surgery successfully and should not attempt it because it hinders him in his other very important activities. There are some things he should do and should recognize. He should have himself equipped at all times to take specimens for the technician, for the laboratory, and he should be equipped for emergencies when he cannot wait for the specialist. Every general practitioner should have antitoxin to take care of diphtheria that he may meet unexpectedly. He should be equipped to give antitoxin intravenously to save his extremely toxic cases of diphtheria. There is one place that many of us have fallen short and have not saved many of these little fellows who have died before they could absorb the antitoxin given intramuscularly. Any general practitioner should be able to do that in an emergency and save these little fellows. He should at all times have his culture tubes so there may be no delay in getting his report from the laboratory.

We should, as I say, demand the high standard of equipment as does the specialist, and in this way there certainly is a field of service that will challenge the very best that is in us. There is no greater place to serve humanity because he meets all classes of people, high and low, rich and poor, and serves them. He must be

widely informed, be able to take care of these various emergencies that spring up when he has to decide without the aid of the specialist and laboratory and determine what shall be done for the poor unfortunate. To me this is the greatest field, this field of the general practitioner, for real service to humanity and the display of altruism.

Dr. J. W. Lipscomb (Columbus): I have nothing new to add along this line, but a practical thought came to me as I sat there, and I want to acknowledge before all this bunch of distinguished citizens, physicians and surgeons, urologists and all other specialists, that I am a general practitioner and never have been anything else, and I have never regretted that I am a general practitioner. But the practical point that I want to bring out is this: We represent a great army, and we men in the general practice are the privates in the ranks. We might as well admit that. We do not wear gold braid and have the spectacular positions that the surgeon and the urologist and the other specialists must have. But the great generals and colonels and majors and all down the line when a battle has been won always say: "We did not do it; the men under us did it." All I ask is that when we refer a patient to these specialists that when he is discharged they tell him—I did not save you; I did my part, but if the man back yonder on the firing line had not referred you to me you would not have been saved. Some such feeling as this between the specialist and the general practitioner will be the salvation of the medical profession in the State of Mississippi.

Dr. Wm. L. Little (Wesson): I belong to the old school. I have been here long enough to appreciate the old family physician and at the same time to appreciate the specialist. We need the specialist, and we need the family physician—the man who has nerve, who is honest, who will go at all hours of night to minister to those in need; but we need the honest specialist, too. The doctor who is doing ear, nose and throat work, has enough to keep him busy all the time in this particular field. We need the x-ray man—we need the honest doctor in all these special lines of work, the physician who will treat the other fellow with some respect. I have sent some of my patients to specialists, and when they

came back they had seen all kinds of equipment and had a bill as long as your arm—and that is all the relief they received. What we need is the specialist who will take the patient you send him and do his best to make a diagnosis, in an honorable way and treat the family physician with some degree of courtesy. Good fellowship should exist between the general practitioner and the specialist. We need them all, but we need honor and honesty.

Dr. G. W. F. Rembert (Jackson): I think there is no question that practically every specialist has come up from the ranks of the general practitioner. Someone has said that it takes about seven specialists to make a good general practitioner, and that certainly is true. The general practitioner is surely the greater of the two classes, and as one of the discussants said, the one to whom the honor is due when the battle is won.

There is only one point that I think should be always held before any man who is doing special work, and that is his great desire, his determination, his every effort to follow the Golden Rule as well as it is in his power to do, always realizing that the patient some physician is courteous enough to refer to him is primarily the ward of that physician. He is simply loaned to him, as it were, for the time being, no matter what may be the domain of the specialist, and as soon as his work will have been completed the patient reverts to the physician to whom he originally applied and under whose care he really belongs. I think if we would follow that as a guiding rule then whatever errors are made would be errors of judgment and not errors of intent.

Dr. J. A. Rayburn (closing): I appreciate the liberal discussion of this paper. I presented it as I did to elicit discussion and cause you to think. Some of my very best friends in the medical profession are specialists, and as I stated in the paper, we need the specialists.

The reason I stated the title as I did—"Shall the General Practice of Medicine Be Called a Specialty?" is because the public is coming to believe that they must have specialists when they get sick. It does not matter what the trouble is, they have to have a specialist, and specialists are springing up all over the country. We must have the general practitioner, and I plead that they be recognized as equals. I believe we are, and I believe the various schools of medicine should emphasize the importance of the general practice of medicine, and that men going out from the medical schools shall be equipped to do better general practice than we men are doing now.

DERCUM'S METHOD OF TREATING NEUROSYPHILIS.*

WITH REPORT OF CASES.

D. L. KERLIN, M. D.,

SHREVEPORT, LA.

Before presenting to you some of the cases of neuro-syphilis which we have on record, and our method of treatment, I am going to give you some important points as brought out by various authors in the use of the most popular methods of treating neuro-syphilis. Judging from the literature and the report of various authors who have experimented extensively with it, tryparsmid is a drug of choice in treating neurosyphilis. Although it has not been released to the profession in general, it will be, no doubt, in the future, and to mention some of the important facts concerning its use as established by various clinicians will not be premature.

Tryparsmid contains 25.32 percent arsenic and its characteristics as described by Brown and Pierce are as follows:

- (1). Comparative freedom from harmful effects.
- (2). A moderate degree of treponemacidal action.
- (3). An unusually high penetrability.
- (4). A remarkable power of reinforcing the processes of natural resistance and of promoting recuperation.

Lorenz and Lowenhert in a report of a hundred and eighty-five cases give the following conclusions in regard to the use of tryparsmid in neuro-syphilis:

- (1). Tryparsmid and mercurial salicylate are therapeutically effective in early paresis, meningovascular syphilis and to a lesser degree in taboparesis, tabes and in advanced paresis.
- (2). The beneficial clinical results precede the improvement in the serology.
- (3). Definite parietic psychosis disappears as the result of treatment.

(4). The mental restoration has persisted over a two-year period.

(5). Visual disturbances occurred in seven percent of the total number treated.

(6). In tabes and taboparesis twenty-three percent of the cases treated showed visual disturbances.

(7). Of thirteen cases showing amblyopia during tryparsmid therapy, all but one cleared up after the withdrawal of the drug. Twelve of these cases were subsequently treated with tryparsmid without further eye disturbances.

(8). A complete ophthalmological examination as to fundi acuity and visual fields should be done upon every case before using the drug.

Tryparsmid is given in doses of three grams weekly for eight to sixteen injections. Injections of mercurial salicylate intramuscularly are either spaced in between the tryparsmid injections or given after the course of tryparsmid is completed. After a rest period, this course of treatment can be repeated if necessary.

The Swift Ellis plan of treatment has many warm advocates and its technique as used by Fordyce is as follows: First, the usual injection of arsphenamine is given. Second, one-half hour later, fifty cc. of blood is withdrawn from the vein. This is placed on ice for four hours. Third, the blood is centrifuged and the serum is piped off under aseptic precautions. Fourth, this serum is inactivated by incubating at fifty-six degrees centigrade for one hour. The object of this is to render inactive any bacteria that may be present in the blood stream. Fifth, a spinal puncture is done, the stilet is withdrawn and at the same time the percolator is attached to the needle by a piece of rubber tubing six inches in length. By holding the percolator below the level of the needle, the spinal fluid is allowed to flow into it. Then, taking the inactivated blood serum, it is mixed with an equal amount of spinal fluid and then allowed to flow through the needle by raising the percolator. Enough serum mixed with the spinal fluid is allowed to flow through the needle to replace the same

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

amount of spinal fluid withdrawn. The number of treatments vary with the severity of the infection. Fifteen to twenty-five injections is the average course.

We have used the Swift Ellis method of treatment, but have not been pleased with it. We now use Dercum's method exclusively which consists of weekly injections of arsphenamine followed by spinal drainage. Following spinal drainage, on an average of three times in each case, we inject bichloride of mercury from one-seventy-fifth to one ninetieth of a grain intraspinally. In addition, we give daily from one-twelfth to one-twenty-fourth of a grain of bichloride intravenously. When the veins become sclerosed and we can no longer inject the bichloride, we use weekly injections of potassium bismuth tartrate intramuscularly, spaced in between the arsphenamine injections. This treatment is continued until we get a negative spinal fluid Wassermann, and then bismuth is continued for at least ten injections. A spinal fluid analysis is done within three months and again in six months after treatment is stopped. If found positive, further treatment is given.

Before giving you the results of our use of this method in a few picked cases, I am going to give you some data on the serological findings in the various types of neuro-syphilis:

I. Paresis and taboparesis:

1. Wassermann reaction in blood positive. (100%)
2. Globulin positive. (95%)
3. Lymphocytosis. (95%)
4. Wassermann spinal fluid.
 - a. Positive in 85-90 per cent with original method and two-tenths cc. of fluid.
 - b. Positive in 100 per cent with larger quantities of fluid.

II. Tabes and cerebrospinal syphilis.

1. Wassermann reaction on blood positive in tabes 60-70 per cent and in cerebro-spinal syphilis 80-90 per cent.

2. Globulin reaction positive. (90%)
3. Lymphocytosis positive. (90%)
4. Wassermann on spinal fluid.

- a. Positive in 5-10 per cent with original method and two-tenths cc. fluid.

- b. Positive in 5-10 per cent with larger quantities of fluid.

Case I. Taboparesis.

White female, age forty-five years. Entered Sanitarium April 10, 1924.

Family history: Unimportant.

Past history: Unimportant with the exception of an ectopic pregnancy for which she was operated on in 1922.

Menstrual history: Negative, no miscarriages nor still births.

Present history: Began four years ago when patient began to feel irritable, depressed moods, headaches frequently and intestinal disturbances. While driving car on several occasions, she would suddenly feel faint with a sensation of blindness and would have to stop the car until the attack had subsided. Recently, memory has been defective, marked muscular weakness and insomnia.

Neurological examination: Rhomberg positive, static ataxia, pupillary reflexes equal, regular in outline, react sluggishly to light and accommodation. Speech and gait normal. Cranial nerves intact. Slight incoordination in upper extremities, deep flexes, upper extremities normal. Diminished bilaterally lower extremities. Sensation areas of anaesthesia and hyperaesthesia over body. Superficial reflexes normal. Circulatory, respiratory and gastro-intestinal system negative.

Laboratory reports: Urine negative. Blood Wassermann four plus. Spinal fluid: cell count forty-five, globulin increased, sugar sixty-five mgms. per one hundred cc. of blood. Wassermann four plus in all antigens in smallest dilutions. Colloidal gold curve 5555443300 paretic curve.

Spinal fluid analysis after five weeks' treatment: Cell count eighty, globulin increased twenty-eight mgms. per one hundred cc. Sugar increased one hundred and ten mgm. per one hundred cc. Wassermann, Kolmer antigen four plus. Cholesterinized antigen two plus. Noguchi antigen two plus. Colloidal gold curve 555534400.

Spinal fluid analysis after four months' treatment: Cell count three, globulin sixteen mgm. per one hundred cc. Sugar sixty-five mgms. per one hundred cc. Wassermann one plus in all antigens. Colloidal gold curve 4444200000.

Spinal fluid analysis six months after cessation of treatment: Cell count five, globulin fifteen mgms. per one hundred cc. Sugar sixty-five mgms. per one hundred cc. Wassermann negative in all antigens. Colloidal gold curve 144340000.

Case II. Paresis.

White male, age sixty-two years. Entered Sanitarium September 8, 1923.

Family history: Unimportant.

Past history: In 1921 he had an attack of frequency of urination with burning sensation. Was told by his physician that he had nephritis, but patient refused treatment.

Venereal history: A chancre thirty years ago, at thirty-two years of age. No treatment at that time.

Present history: Two weeks previous to the time that we saw him, patient's symptoms were predominantly mental. Memory became defective, delusions of persecution, especially concerning all women, whom he thought were trying to harm him; even his wife. Both visual and auditory hallucinations were present. His wife stated that he had been in failing health for the past six months; being very suspicious, irritable and forgetful.

Neurological examination: Rhomberg positive. Pupils irregular in outline, unequal, right larger than left, react to light and accommodation sluggishly. Marked arcus sensilis consensual and cilio-spinal reflexes present. Speech slurring. Slight incoordination both upper extremities. Tremor of both tongue and upper extremities. Deep reflexes exaggerated, slightly more on left side. Sensation normal. Babinski bilateral, more marked on left. Circulatory, respiratory and gastro-intestinal systems negative.

Laboratory reports: Urine specific gravity 1.032 occasional hyaline and granular cast. Blood chemistry creatinin 2.3 mgms. per one hundred cc. blood. Uric acid 1.5 mgms. per one hundred cc. blood. Urea 25 mgms. per one hundred cc. blood. Blood Wassermann negative. Provocative blood Wassermann after two weeks on mixed treatment showed three plus in Kolmer antigen. Spinal fluid: four plus in cholesterinized and Kolmer antigens and negative in Noguchi in dilutions above two tenths cc. Cell count 210, globulin increased, sugar normal. Colloidal gold curve 0055555432100.

Spinal fluid analysis after one month's treatment: Cell count 30. Globulin normal. Wassermann negative. Colloidal gold curve 1333000000.

Spinal fluid analysis after two and a half months' treatment: Negative in every respect, including the colloidal gold curve.

Case III. Cerebro-spinal syphilis. (Meningo-vascular Type.)

White female, age twenty years. Entered Sanitarium November 11, 1924.

Family history: Unimportant.

Past history: Removal of tonsils and adenoids when twelve years of age. Patient of a very nervous temperament, suffered with indigestion for the past eight years. Menstruates regularly; however, suffers with fainting attacks at time of menstruation.

Venereal history: Patient has been treated for syphilis for past two years. Up to present date patient has received twenty-two injections of salvarsan and eight injections of mercury, also mixed treatment. Blood Wassermann was positive up to July, 1924, when a negative report was received and treatment stopped.

Present history: Patient complains of a peculiar pressing sensation on top of head which sensation she also experienced for one month in 1923. It returned the last time in January, 1924, following the sixth injection of salvarsan, and has continued to present date, November, 1924. Has a tendency to worry quite a bit, very anxious over her condition, with quite some social conflict.

Neurological examination: Rhomberg negative. Pupils equal, regular in outline, react to light, accommodation. Speech and gait normal. Deep reflexes exaggerated all over. Sensations normal. Superficial reflexes normal. Circulatory, respiratory and gastro-intestinal systems negative.

Laboratory reports: Urine negative. Blood Wassermann one plus in all antigens. Spinal fluid analysis: Cell count 270, Globulin 21 mgms. per one hundred cc., sugar 75 mgms. per one hundred cc., and Wassermann negative in all antigens. Colloidal gold curve 4441000000.

Spinal fluid analysis after six weeks' treatment: Cell count 35, globulin 15 mgms. per one hundred cc., sugar 65 mgms. per one hundred cc., Wassermann negative. Colloidal gold curve 5544332100. Patient is still under observation and is to have a spinal fluid analysis six months after cessation of treatment.

Case IV. Spinal syphilis. (Vascular type of cervical cord.)

White male, age twenty-five years. Entered Sanitarium January 28, 1925.

Both family and past history unimportant.

Venereal history: Gonorrhea in 1920. Denies having had a chancre.

Present illness: Began with pain in left arm in May, 1924. In August, 1924, noticed that left arm and shoulder was smaller than the right. Consulted a physician but refused spinal puncture at that time. Remission of symptoms at this time for a month's duration, then symptoms returned, and arm and shoulder became progressively weaker and more painful.

Neurological examination: Rhomberg negative. Pupils equal, regular in outline, react to light and accommodation. Speech and gait normal. Cranial nerves intact, no tremors, slight incoordination of left upper extremity. Deep reflexes. Diminished left biceps and extensor, otherwise negative. Grip diminished in left hand. Sensation normal. Superficial reflexes normal. Circulatory, respiratory and gastro-intestinal systems negative.

Laboratory reports: Urine negative. Blood Wassermann negative. Spinal fluid: cell count 12 globulin 18 mgms. per one hundred cc., sugar 60 mgms. per one hundred cc., Wassermann 4 plus in .6 and .8 cc. dilution in Kolmer and cholesterinized antigens. Negative in Noguchi antigen. Colloidal gold curve 001130000.

Spinal fluid report after one month's treatment: Cell count 5, globulin 16 mgms. per one hundred cc., sugar 65 mgms. per one hundred cc., Wassermann negative in all antigens. Colloidal gold curve 0000000000.

Spinal fluid report after six weeks' treatment: Cell count 15, globulin 12 mgms. per one hundred cc., sugar 60 mgms. per one hundred cc., Wassermann negative in all antigens. Colloidal gold curve 0000000000.

CONCLUSIONS.

No. 1. Neoarsphenamine combined with spinal drainage and reinforced with mercury both intraspinally and intravenously gives satisfactory results in the treatment of early cases of neuro-syphilis.

No. 2. When cases do not respond to neoarsphenamine or salvarsan, they often will respond satisfactorily to weekly intramuscular injections of potassium bismuth tartrate with butyn.

No. 3. We have no set rule as to how much treatment should be given nor is any one specific drug used, but try to adapt the treatment to the needs of the patient until a negative spinal fluid Wassermann is obtained.

No. 4. When a negative spinal fluid Wassermann is obtained, no case of neurosyphilis should be dismissed as cured, the necessity of further observation should be impressed upon the patient, also analysis of spinal fluid at three and six months intervals after cessation of active treatment.

No. 5. We find that in late cases of neuro-syphilis when the total protein in the spinal fluid exceeds 40 mgms. per one hundred cc. of fluid, that clinically we can improve these patients for a time but not serologically.

No. 6. A bad prognosis is given in these cases in direct proportion to the excess of total protein in the spinal fluid, the standard being 40 mgms. per one hundred cc. of fluid.

No. 7. Dread of spinal puncture is cut to a minimum in these cases by using a small calibre needle and thoroughly anesthetizing with four percent novocain solution.

DISCUSSION.

Dr. L. L. Cazenavette (New Orleans): I think Dr. Kerlin struck a very important note when he spoke of the use of tryparsamid in the treatment of neuro-syphilis. This drug is now capable of being obtained by any one. It has now been released for some little while, but before it was released to the use of the general profession it was kept under observation for a good many years. It was made by Powers, Wightman & Company, I believe, and was under the supervision of the Rockefeller Institute. Some of our institutions were privileged in receiving a certain amount of tryparsamid for the use in well studied cases of paresis.

The amount of the drug to be used is usually one gram to every fifty pounds of body weight. The drug when first used was used in much larger doses, three and four sometimes five grams, and there resulted quite severe reactions, especially the reactions about the optic nerve, etc. But I believe that if we are a little conservative in the amount of the drug to be used we are going to prevent a great many ill effects of the preparation.

I don't know that paresis can be cured any more than a well marked case of tuberculosis can be cured. The case may be improved and kept under pretty well for a great many years. And so it is with paresis, it is difficult to say when a case is

cured. But the point I want to make is this, that in early cases of paresis there is no doubt in my mind that tryparsamid will do more good than any other preparation I know of. Of course, in the very advanced cases possibly it is very difficult to overcome the bad effects or ill effects of the spirochete on the brain cells themselves. But in early cases where you have your blood picture, when you have your spinal picture and everything detecting an undoubted beginning of paresis, I believe that the drug is of great value. Various treatments of synthetical preparations advise the need of vomiting at times. I know that in many cases tryparsamid has been given before meals or after meals, and in one case it was given the patient during his meals to test the effect and it had absolutely no bad effect. So in that respect I believe we should feel our way through and use a little bit more of this drug than we have in the past. I think it is a very important subject and we all know what becomes of these unfortunates if we don't do something for them. I feel it is our duty to use that particular drug in the early cases of paresis.

Dr. Kerlin (in closing): I wish to thank Dr. Cazenavette for the discussion, and in closing there is one point I want to stress: that is the fact that we treated neuro-syphilis for quite a few years without any definite standard on which to make our prognosis. Recently there has been developed a laboratory technic of determining the total quantity of protein in the spinal fluid. The normal standard of total protein in the spinal fluid is forty milligrams per hundred cc. of blood. We find that in direct proportion to the amount of protein increased above forty milligrams to 100 cc. the worse the prognosis. We just started using it and I can't say it is absolutely dependable. But say, for instance, if the protein is sixty milligrams per 100 cc. or seventy or eighty, we nearly always pronounce the patient incurable. If it runs around forty-five or fifty, the chance is better. If it doesn't exceed forty the chances are good to put the patient on his feet. (Applause.)

COLOR ACUITY, RECENT STUDIES WITH THE TEST.*

M. EARLE BROWN, M.D.

NEW ORLEANS.

Believing it to be of equal importance to general practitioners, medical men, and surgeons as well as oto-laryngologists and

ophthalmologists, I propose to delve into the ever old and always new subject of Headaches, so well defined by Forcheimer, who states: "It is the most difficult symptom to treat, for the reason that the diagnosis as to its cause is most difficult, and the causes are very numerous." Among the many etiological factors, neurasthenia, hysteria, intestinal intoxication, chronic constipation, toxic substances as a result of faulty metabolism, diabetic or nephritic, chronic intoxications, lead, carbon dioxide, or nicotine, malaria, syphilis, and the anemias represent the class of general diseases of which headache is a symptom.

Butler describes the character of pain as follows: Sharp lancinating pain, paroxysmal pain, as characteristic of neuralgia. Pulsating or throbbing headache if unilateral, and in connection with vaso-motor disturbances, is indicative of migraine or hemicrania. Dull, heavy, diffused headache, is found in gastro-intestinal and febrile diseases of infectious origin; binding, pressing or squeezing headache is found in neurasthenic individuals. Hot burning sore headaches are associated with rheumatism and anemia. Sharp and boring head pains are typical of epilepsy and hysteria.

One can readily understand why such an arrangement of symptoms can be of little value in the diagnosis of diseases producing headache, because they are confusing and the ordinary patient does not possess sufficient intelligence to describe such headaches.

When examining such patients, if you will place them 20 feet from a test object of Red 2 mm. in diameter and require them to determine the color at that distance, you will find that only patients with normal vision can do so, therefore we must remember that persons with normal vision can recognize a Red test object 2 mm. in diameter, and a Green one 5 mm. in diameter, and a Blue one 7 mm. in diameter, and patients who cannot do so have defective vision.

*Read before the Orleans Parish Medical Society, May 24th, 1926.

It must be remembered that color recognition is lost before visual perception; in other words, patients whose visual acuity is 20/20 may have defective vision.

Color acuity is diminished in the diseases just mentioned only when the optic nerve is involved from an invasion of toxic substances with the exception of neurasthenia, which is a result of ocular fatigue and not a constant symptom.

Fuchs states: "Apart from pain which radiates from the eye to the head actual headache may also emanate from the eyes even when the latter are not really diseased, but simply subjected to undue strain as in ametropia. The color acuity test is of great value in determining the cause of headaches emanating from the eyes, especially where there are no external manifestations and the manifest vision according to Snellins test type is 20/20, this is particularly true in prodromal glaucoma where there are no objective lesions in the eye at the time of examination, the color acuity test showed a diminished color acuity for Red 18/20.

There is another type of headache frequently overlooked which has its etiology in the sphenoid and described in detail in Schluder's book, patients describe this type of headache as one originating in the eye, then radiating to the temple, then to the mastoid region and behind the head to the nape of the neck, the pain distribution is of course due to irritation or pressure upon Meckels ganglia. In this type of headache central vision was always 20/20, but the color acuity test showed diminished color acuity for Red as low as 1/20, and for Green as low as 5/20, Blue was not generally affected; the diagnosis of chronic hyperplastic sphenoiditis was made upon 27 cases using the color acuity test. How many of you gentlemen consider headache as an early symptom leading to blindness? So important is this symptom that one may consider every case of chronic headache

whose etiology is undetermined to be one of a potential blindness.

Do we not know that headache is a constant symptom in the toxemias and do not the toxemias cause visual loss from involvement of the optic nerve and blindness from the atrophies that follow? is not headache a constant symptom in sinus diseases and is not the visual pathway invaded in most cases of ethmoiditis and sphenoiditis with loss of vision sometimes due to pressure upon the optic nerve and other times by extension, then is it not of the utmost importance to determine whether the visual pathway has been invaded and where?

The color acuity test will determine whether the visual pathway has been invaded as diminished color acuity is the earliest symptom of defective vision, excepting of course errors of refraction.

DISCUSSION.

Dr. Chas. A. Bahn: Dr. Brown's investigations on the relationship existing between central color vision in general and ocular disease are of interest because this is one of the important but unsettled problems of ophthalmology.

Diminished color vision acuity is an important and constant symptom in some of the toxic amblyopias of which tobacco and alcohol are the most frequent examples. In diminished illumination, as night blindness, it is commonly seen in retinitis pigmentosa, retinitis punctata, albescens, and xerophthalmia. In quite a few other diseases and degenerations, most of which Dr. Brown has mentioned diminished central color vision in the form of central scotoma are sometimes seen with varying frequency and intensity. Changes in the indirect color vision in the form of peripheral field contractions are more easily measured, better understood and generally speaking are of greater diagnostic importance.

Unfortunately no practical quantitative test for central color vision has yet been devised, which is not surprising when one considers the difficulties to be overcome. Central color vision varies normally with training, with illumination intensity, with color saturation, as well as with refractive, perceptive, as well as with other factors. Approximately 5-10% of males have congenital defective color vision. Of its variations in diseases we know relatively little.

A practical quantitative central color test would be of great importance in the regulation of automobile drivers who with colored signals and congested traffic have relatively greater responsibility for human life than locomotive engineers.

Generally speaking defective central color vision from a practical standpoint can hardly be considered a reasonably accurate means of diagnosis by the general physician between local and general ocular manifestations of disease.

I hope that Dr. Brown will continue his investigation on this interesting and important subject and help ophthalmology solve one of its most interesting and difficult problems.

Dr. M. Earle Brown (closing): I wish to thank Dr. Bahn for his words of encouragement. I will continue studies along this same line.

PYELITIS IN CHILDREN.*

G. Y. GILLESPIE, M. D.,

GREENWOOD, MISS.

The clinical entity, pyelitis, is justly due important consideration as one of the common, unrecognized causes of fever in infants and children. An acute tonsillitis, an early broncho-pneumonia, an otitis media, each has symptoms characteristic or suggestive of its localization, but the symptom-complex of pyelitis, mild or severe in character, inconstant in its manifestation, rarely suggests the localization of the trouble, and is often and easily overlooked.

We will here use the term pyelitis in a rather general sense, for although the majority of infections of the urinary tract in infants and children are most probably confined about the kidney pelvis; cystitis, pyelonephritis, renal calculi, kidney abscess, and pyelitis, all give very similar symptoms and clinical findings by our present methods of study and examination. It is no easy matter to definitely picture the pathological lesion in an infection of the urinary tract. Investigators in their most painstaking work have experienced great difficulty in collecting knowledge of

the true pathology of this condition. Pyelitis in itself is not often a fatal condition, and although numerous autopsies have been performed where pyelitis was a complicating factor in the cause of death, little definite knowledge has been gained. Laboratory experimentation with animals, has furnished the most valuable information as to the pathology, and has led to the rather general adoption of the three routes of infection and the two types of pathological lesions. Helmholtz has been able to produce pyelitis in animals by the intravenous injection of live bacteria, demonstrating the localization of the bacteria first in the papillae and in the capillaries of the submucosa of the pelvis of the kidney. If the mucosa is involved it is by continuity of tissue, the infection spreading from the submucosa, rather than being excreted into the pelvis of the kidney and then attacking the mucous lining. Other investigators have injected live bacteria in the bladder, and have demonstrated the infection travels by way of the lymphatics of the submucosa around the ureters and the pelvis. Still others during their cystoscopic examinations have seen regurgitation of urine from the bladder into the ureters, carrying infection to the mucous membrane of the ureter or pelvis of the kidney. Hence we have the three generally discussed routes of infection, viz: haematogenous infection, involving the capillaries of the pelvis and peripelvic tissue, lymphogenous infection ascending through the lymphatics around the ureters, and ureterogenous infection ascending through the ureters involving the mucous lining. Likewise we differentiate two types of pathological lesions; inflammation of the submucosa and the peripelvic tissue, and inflammation of the mucous membrane.

Pyelitis is almost invariably due to infection by colon bacilli. Pyogenic cocci when found usually means infection of the kidney substance which leads to the formation of multiple small abscesses. The fact

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

has been established that pyelitis in infancy and childhood is often associated with or secondary to infections of the upper respiratory tract, the digestive tract, or some other intercurrent infection, but the relationship of the infection is still a matter interesting the attention of investigators. Even where pyelitis is present with, or a sequellae to other infections, it is not due to the organism causing the other infection, but in practically all cases colon bacilli are the only organisms that can be isolated from the urine specimen. Certain investigators have advanced the theory that the organisms causing the other infections may have attacked the kidney first, but were rapidly overpowered by the secondary invader, colon bacilli. Helmholtz and Milliken have demonstrated in experiments there is no basis for proof that the outside infection has a specific action, but it probably produces a general lowering of resistance of the urinary tract to colon bacilli and gives them an opportunity to exercise a pathogenic activity. Practically all authorities agree that normally, bacteria are not present in the urine of the kidney or bladder, but it is not an uncommon experience to find many colon bacilli in the urine of children that present no symptoms and are apparently normal in health. Consequently it is logical to assume that pyelitis, occurring as a complication of other infections, is due to a lowered resistance of the urinary tract, allowing the inhabitant, colon bacilli, to produce pathological lesions. Pyelitis occurs more frequently in children under two years of age, and the female sex is more frequently infected than the male. The younger the infant, however, the higher percentage of males that are infected. It is not an uncommon thing to find a very young infant suffering with pyelitis.

There is probably no acute infection in children that produces such a variety of symptoms, or shows so many degrees of severity as does pyelitis. The predominant and most constant symptom is fever, very

variable and irregular, and without discoverable cause upon physical examination. The severity of the infection may be such as to produce convulsions, cyanosis, extremely high and variable fever with rigors and colliquative sweats and profound prostration, or it may be so slight as to produce palor, restlessness, anorexia, drowsiness, and a low grade fever with no symptoms suggestive of the urinary tract being the localization of the lesion. Urinary disturbances as a general rule are not characteristic, but not infrequently, painful and frequent micturition are predominant symptoms. The condition may be ushered in by digestive disturbances as vomiting and diarrhea, the passage of several greenish, foul smelling stools, and high fever. The rigors, high irregular fever, cyanosis, convulsions and prostration, all symptoms of an acute pyelitis, are not uncommonly mistaken for malarial infection and treatment instituted which is more often a detriment than an aid to the patient.

The diagnosis of this not rare but frequently overlooked infection, is largely dependent upon microscopical examination of the urine, finding pus and bacteria in varying quantity. No examination of a sick baby with an obscure infection has been completed until a specimen of its urine has been subjected to a microscopical examination. Pus may not be present in every specimen of urine sufficient to make a diagnosis of pyelitis. In fact, a few pus cells may be found in the urine of healthy babies, especially females, consequently it has been necessary to adopt some standard whereby we may say pus cells are significant of pyelitis. Experience has shown that when the urine contains pus in sufficient quantity to give over five pus cells to every low power field in the uncentrifugalized specimen, and especially if these cells are grouped together in little clumps, infection somewhere along the urinary tract undoubtedly exists. The presence of pus cells in the urine of female

babies may be due to an unsuspected vaginitis, but by means of a catheterized specimen the diagnosis of pyelitis can be proven, and in case of doubt, one should not hesitate to subject his patient to this procedure. Pyelitis may exist for days without the appearance of pus in the urine, but in such cases colon bacilli in quantities can be found by microscopical examination. Often when the temperature is high, the symptoms severe, and the patient quite ill, there will be little or no pus, but coincident with a fall in temperature and mitigation of the toxic symptoms, there will be a flood of pus cells in the urine. One cannot be too careful in his thoroughness of a physical and clinical examination of children, and where pyelitis is found not satisfied until he has proven whether it is a primary infection, or secondary to some other infection. One of the most tricky things we have to deal with in clinical medicine is undoubtedly the fact that pyelitis is so often a secondary infection. A child may have an attack of pyelitis and apparently be cured, but let it develop an acute tonsillitis, an otitis media, or any other infection, and it is quite likely there will be a flare up of the pyelitis.

The course of prognosis of this infection is as variable as its modes of onset or clinical symptoms. In most instances it is a self-limited trouble which may disappear almost as rapidly as it appeared. It may be so severe as to make the prognosis seem very unfavorable and then go to a sudden termination as if by crisis. Then again it may be moderately severe but persist even after the most thorough and painstaking treatment. The pus and bacteria may be present in the urine even after all symptoms have disappeared. Most valuable information as to prognosis can be gained by making kidney function tests, to determine between pyelitis with or without renal involvement, and thereby differentiate the severe from the mild type of the disease. Experience has shown that a patient once

affected has a strong tendency to recurrence.

Treatment of this condition has brought forward varied discussions as to the efficacy of many drugs, but only a few have stood the test of time. It is now a generally accepted fact that alkalization of the urine and copious administration of water furnishes the most brilliant results in the therapeutic application of drug treatment in pyelitis. The question naturally arises whether alkalization is merely a means of increasing urinary output and flushing the passages or whether it has a definite specific effect. It is reasonable to suppose that alkalies should effect a favorable influence in pyelitis. We know that phagocytosis is inhibited in acid and activated in alkali medium, and as phagocytic activity is a most important factor of body resistance in clearing up any infection, anything to increase it should be of value in pyelitis. Again we know that the toxic symptoms in pyelitis are very largely due to retained pus in the kidney pelvis, and as pus is more soluble in alkaline than in acid solution, this gives up a plausible reason for the good therapeutic effects of alkali administration. Potassium or sodium citrate are the drugs most frequently used to render the urine alkaline. Some claim the sodium salt is superior, due to the fact that it is less irritating to the stomach, and can be given in much larger doses without danger of toxic symptoms. In some cases it is necessary to give very large doses to get strong alkaline reaction of the urine. Sodium bicarbonate is a very useful drug to help render the urine alkaline. Helmholtz in a series of experiments as to the efficacy of the common urinary antiseptics in producing a pus free and sterile urine in pyelitis, found that urotropin gave very striking results over all other drugs used. He has shown that this drug can be administered in double or triple the dose ordinarily advised without damage to the kidney, provided the fluid intake is proportionately increased. In order to cause the

formaldehyde, which exerts the antiseptic effect, to be liberated from the urotropin, there must be an acid concentration of the urine. To render the urine acid, small doses of ammonium chloride, or full doses of acid sodium phosphate should be given. Various other drugs as salol, acriflavine, hexylresorcinol, mercurochrome, etc., are of definite therapeutic value in the hands of some clinicians, but it has been the experience of most men, that if after thorough and persistent treatment with alkalis, alternating with urotropin, the pus and bacteria persist, the case is beyond the realm of the general practitioner, and it is wise that it should be referred to the urologist. However, the urological treatment of infants and children is not only an extremely drastic procedure, but very few specialists have thus far successfully practiced cystoscopy and ureteral irrigations on them, and due to the difficulties in the technic, it will only be resorted to in the most obstinate cases.

Therefore, in the treatment of pyelitis in children, put your patient on sufficient size doses of potassium or sodium citrate to render the urine alkaline and keep it that way for several days. The reaction should be checked by frequent examinations with litmus paper, and as soon as alkaline the dosage can be reduced. If the symptoms do not disappear or the urine does not clear up in a few days, change to urotropin, ten to fifteen grains with ammonium chloride, two to three grains, or acid sodium phosphate, ten to fifteen grains, every four hours. Alternate the two treatments about every ten days, guarding your dosage of drugs by the symptoms and the reaction of the urine. Symptomatic treatment, of course, is indicated as symptoms arise. Hydrotherapy "internally, externally and eternally" for the hyperpyrexia and to promote diuresis, thorough evacuation of the intestinal tract, bland but nutritious diet. Milk, of course, is not a satisfactory diet where the temperature is high. The cereal gruels and fruit juices will prove more

satisfactory. There are cases of pyelitis secondary to foci of infection, or malnutrition, where no drug therapy will be effective until the foci are removed and the nutrition of the child improved. As Mariott has said, "two remedial agents are here important, calories and cod liver oil." Vaccines have been given trial in all class of cases, and as in most other conditions, have had the same record of success and failure.

In conclusion, let us remember that pyelitis is always a likely diagnosis in case of obscure fever in infants and children.

Its presence or absence can be proven in most cases by a careful microscopical examination of urine for pus and bacteria.

It can be relieved, and in most cases hastened to a permanent cure by the guarded application of drug treatment.

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DISCUSSION.

Dr. N. C. Womack (Jackson): Pyelitis is a frequent disease. It is found almost as often as you wish to find it. It should be looked for in every case of acute febrile condition that is not classified in your own mind. I would like to speak of one or two points in diagnosis. Up to a few years ago we did not know how to make a diagnosis of pyelitis; we have obtained most of our information in the last few years. In the first place, it takes a microscope, and the specimen of urine should be sterile, and should be cultured and grown on proper culture media.

Pyelitis is classified as acute and chronic. The acute condition should always be suspected if the diagnosis is apparent; chronic pyelitis is never suspected, if the diagnosis is apparent; chronic pyelitis is never suspected, but is usually found during routine examination. It is usually secondary to pus tonsils, infected sinuses, etc. Ten years ago we had a great deal of ileo-colitis. We

do not see it as much as we used to, but we hardly ever see a case of typical ileo-colitis that does not have pyelitis as a complication.

The routes of infection are three—hemaogenous, lymphatic, and by continuity of tissue. In cyclic vomiting one can often demonstrate the colon bacillus in a sterile specimen of urine. These cases I think come from chronic appendicitis in children, and I have had cases improve by removing the appendix that had later become acutely involved.

The principal thing is the diagnosis. On the treatment we differ, but whatever the treatment, whether alkalinization, urotropin or what not, remove the foci of infection in tonsils or sinuses or where ever present. Then put the child on constitutional treatment, a building-up treatment. You take a child with a hemoglobin of 60, flabby tissues, nodules on its ribs, rickety—you will not cure it. You may demonstrate the absence of infection in the urine, but in a few weeks it will come back. It may be renewed infection, or it may have lingered there. You must get three negatives before you can rule it out. Sometimes the second and third will be positive. Clean up the child, get rid of the foci of infection, put it on water and urotropin. I have been seeing these cases for ten years, and I never saw a case where you got rid of the foci of infection, built up the child, put it on codliver oil and orange juice and feed it well, that did not get well.

Dr. R. A. Strong (Pass Christian): I think this is the most complete paper on pyelitis that I have ever heard and wish to compliment Dr. Gillespie on it.

One or two points I would like to emphasize, and the first is this—that you have to differentiate between pyelitis the disease, and pyelitis the symptom. There is such a disease as pyelitis, a definite clinical entity which the doctor has described; and there are also a great many instances where pyelitis is merely a symptom of other conditions. For that reason, as the doctor brought out in his paper, if under the ordinary alkalinization treatment you do not get results, then the case belongs to a competent urologist. In other words, if with copious draughts of water to imitate a siphoning effect, if with potassium and sodium citrate over a certain time you do not get results, you can rest assured there is some intercurrent condition. In other days it was impossible to catheterize a child, but the urologist can do this now—catheterize the ureters. Bear this in mind, that it is entirely possible to have congenital torsion of the ureters causing a hydronephrosis. You can have congenital deformities

from the kidney down to the bladder. It is reasonable to suppose that in this condition you will find a certain amount of pus in the urine, but it is wrong to say that because you have pus it is a case of pyelitis. So if you do not get results with the treatment as outlined, have the child cystoscoped, have a cystogram made, and also the phthalein test, and see whether or not you have also an intercurrent hydronephrosis, deepseated pyonephrosis, even an abscessed condition of the kidney. In other words, test the function. Have the urologist do a blood nitrogen test.

The doctor could not emphasize all these points, but that is what he meant when he said to go behind the condition and determine whether or not it might be a symptom of some intercurrent disease.

Dr. J. E. Green (Richton): As far as the treatment of pyelitis is concerned, I agree with everything that has been said. The only thing I want to say is this—know what you have. I know, and we all know, that quinine has been given to children and grown people in Mississippi who did not have malaria within a hundred miles of them.

In regard to the cystoscopic examination, you probably will not make that, but you can have it done. Remember 60 per cent. of doctors in Mississippi do not have a microscope and could not use it if they did. But it is possible now in Mississippi to have a microscope available in every county. If the doctor will carry in his case a urethral catheter (not the rubber catheter that one uses to empty the bladder) he can get a catheterized specimen, then go home and find if you have urine loaded with pus, and keep the quinine in the drugstore where it belongs. And remember water, water and more water. I believe more deaths in this State from infectious disease are due to lack of fluids in the body than to any other one thing. Be sure you know what you have, and do not give the patient calomel or quinine until you are sure of your diagnosis.

Dr. W. A. Dearman (Long Beach): I am not a pediatrician nor a urologist. We are indebted to Dr. Gillespie for this paper. It is well rounded out, it is clear and concise and it puts the matter before the general practitioner so he can have a full appreciation of what pyelitis means. It has been conceded that possibly 40 per cent. of all acute febrile conditions in babies are due to middle ear trouble, and I know and you know that pyelitis will simulate malaria. We have treated it for malaria years ago because it had the same clinical symptoms as malaria. But children do not have chills in pyelitis that adults

do. I have never seen a case of pyelitis in adults, especially women, but what they had two or three chills a day, or perhaps one in the day and one at night. You do not have a malaria chill around midnight. You can have it around eight or nine, but not midnight.

The diagnosis rests largely on your urinary findings. Females of course are more prone to pyelitis than males, and the three principal routes through which the disease travels are the lymphatics, the haematogenous route, and by continuity of tissue.

There are two outstanding classifications of pyelitis in children—acute and chronic. We all know you can have a secondary pyelitis, but when you are dealing with an acute, primary pyelitis in children it is infectious, and in 95 per cent. of cases due to the colon bacillus.

I do not understand why it is that sometimes we are at such variance with reference to finding pus in the urine. I have a good standard rule, and I perhaps have done 20,000 urinalyses. With the male child, a centrifugalized specimen of urine will have one or two pus cells in the field under high power; with the female, in a catheterized specimen of urine, four or five pus cells in the field is about right for normal urine. I think most females that you catheterize will show that. A purulent urine to my mind is one that in a centrifugalized specimen you will find five to twenty pus cells that may be in clumps or may not. Nine times out of ten you will find a positive urine culture.

I do not alkalinize my patients, but I depend on urotropin. I am a little afraid of 15 grains of urotropin in anything but a grown person because you can soon set up a cystitis. If you irritate the bladder with urotropin you irritate the kidney higher up. Acute pyelitis in a perfectly healthy child is usually clear-cut as to treatment.

I think our findings in the urinary tract can be narrowed down, and if we do not find more than two or three pus cells in the male and four or five in the female we may call it clear. But understand that you can have a genito-urinary infection without any pus in the urine.

Dr. E. H. Linfield (Gulfport): Just to elaborate a little on the urological side of it as Dr. Strong and others have done, we now have an infant cystoscope, very small, devised especially for cystoscoping infants and young children. It does not require an unusual amount of technique to use this instrument, although you should know how before you attempt to do so. You must understand that with an infection in the kidney of a child it is possible, as in the adult, to

get one or more abscesses forming along the tract of the ureter itself, and as these abscesses heal with scar formation, as in acute infections of the male urethra, there is a contraction and subsequently the formation of stricture, either partial or total. Along with this you naturally have a damming back in the pelvis of the kidney of the urine, and in this stagnant urine organisms flourish.

I do not believe in medication; copious draughts of water will do but little good. I believe the only thing you can do for them is to dilate the ureter with a catheter and use the cystoscope. While you are in there it is always well to lavage the kidney pelvis with some antiseptic solution. But I want to point out that a great many of these cases of long and continuous pyelitis, or whether it be pyelitis or just pus in the urine, with no symptoms at all may be due to stricture. The symptoms may be treated, or the bladder alone—if you have a chronic cystitis and treat the bladder alone you will not get results because you have overlooked the fact that the infection is in the renal pelvis. If in these cases you get no results from treatment of the bladder, you should have a pyeloureterogram made, following of course the correct technique as to the posture of the patient, to determine whether you have a hydronephrosis, a torsion of the ureter, a partial stricture of the ureter, or what not. New growths will sometimes cause contraction of the ureters that will give the same symptoms as stricture.

Dr. George A. Hendon (Louisville, Kentucky): From one standpoint this interests me as surgeon, on account of the fact that you can have pathology in the right lower quadrant of the abdomen other than appendicitis. I think this paper will stimulate more careful differentiation between chronic appendicitis and infections of the pelvis of the kidneys and ureter on that side.

I have always been extremely sensitive regarding chronic appendicitis. Most cases that I have operated have made splendid recovery, and then have embarrassed me by coming into the office a month or so after the operation when there were other people present and saying in a loud tone, "Doctor, I have that pain right there just where I had it before you operated." I think every man who has ever operated for chronic appendicitis has had that experience, and if he has not he surely will have. Therefore I say that the majority of cases of chronic appendicitis are either pyelitis, or some disturbance of the ureter on the right side, and before we go so far as to operate on a chronic appendix it should be the absolute duty of every man to eliminate infections of the kidney and ureter. There are few

cases of chronic appendicitis that cannot at some period of their history give a clear, definite account of an acute attack. Therefore I think a so-called chronic appendicitis without a definite history of an acute attack must be ascribed to infection of the kidney on the right side and this particular pathological entity ought to be thoroughly eliminated before we assume the responsibility of opening the abdomen for chronic appendicitis.

Of course you are all familiar with the work of Hunner, who has probably done more and better work than any man in the United States demonstrating that the very slightest interference with the structural conditions of the ureters may set up a chronic inflammation. There is a peculiar propensity of the organisms that inhabit the tubular organs of the body to become pathogenic, and if in one of the tubular organs of the body there is something that induces interference, the organisms that naturally occupy that particular organ will assume pathogenic properties. We all know that we have organisms that are not only not pathologic, but are healthful; but the moment interference occurs, then these organisms become intensely pathogenic. The same thing applies to the ureters. I do not suppose there is any such thing as absolute sterility of the contents of the pelvis of the kidney, but the organisms are innocuous. But the moment interruption occurs with the current, then these organisms assume pathogenic properties.

I think this lesson should be drawn from the paper, and it is the point I would emphasize, that before we open the abdomen in the right lower quadrant we should eliminate infection of the kidney and ureters.

Dr. G. Y. Gillespie (closing): I appreciate the men who have spoken along the line of urology. There is no doubt a distinction between pyuria and pyelitis. Pyuria does not mean pyelitis. We all know that the urogenital tract of the child is

subject to malformations and deformity—you are likely to have any type of deformity in the urogenital tract. I tried to confine my paper to the clinical entity pyelitis, meaning infection of the pelvis of the kidney, and the symptoms due to pyelitis.

There was some question brought up about the treatment with urotropin. You men who heard Dr. Helmholtz talk about this question at Dallas will remember that he said he gave as many as 20 to 30 grains of urotropin every three or four hours, and that you could give that quantity provided you gave sufficient fluid intake. There is no doubt that urotropin does produce an irritation of the kidney substance. You give it for any period of time and you will produce an irritation, but urotropin for a few days certainly will not produce blood in the urine in many cases if sufficient water is given. You will not get the frequent and painful micturition when you give it in this manner. When I came back from Dallas I began giving babies and children big doses of urotropin. I gave a seven-year-old child 20 grains every three hours for several days. I had been trying for three months to sterilize the urine, and at the end of three days with urotropin given this way I secured a sterile specimen and it is still sterile. The child had been suffering for five years and had been under my treatment for three months. I did not produce any haematuria in that case; there was a little painful micturition for a day or two and after that there was no difficulty. I do feel you can give babies big doses of urotropin and thereby sterilize the urine without producing any serious damage to the kidneys provided you do not give it over too long a period of time.

I am very thankful for this discussion. The principal point I want to emphasize is to be sure that you make a urine examination in babies and children with obscure conditions before you rule out the question of infection along the urogenital tract.

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THE MURPHY MEMORIAL.

Another page in the history of American medicine was written recently when the beautiful John B. Murphy Memorial Hall was dedicated and presented to the American College of Surgeons in Chicago. The exercises on this occasion were specially in memory of Dr. Murphy, whose white marble bust was placed in the center of the platform, draped with American and British flags.

Mr. Leroy A. Goddard, president of the Murphy Memorial Association, which raised the \$600,000 to complete the building, presided. The invocation was delivered by the Rev. William H. Agnew, presi-

dent of Loyola University. Mr. Goddard formally presented the Hall to the American College of Surgeons. It was accepted by Dr. Rudolph Matas, president of the College. Dr. William J. Mayo also spoke. We quote below from the *Chicago Daily Tribune*.

In accepting the gift for the College, Dr. Matas said, in part: "As we contemplate the architectural beauty of this memorial and consider its destiny we may see that it is plainly written that it will become the center of the organized activities of the surgical profession resident in the western hemisphere. We now recognize, with glad acclaim, that this living monument, built in recognition of the scientific service rendered to humanity by one of the greatest exponents of our science and our art, marks an epoch in the relations of the medical profession and the public. It testifies in mute but unmistakable terms that the soul of surgery has found its place in the heart of humanity."

"Is it not fit that here, on the shore of one of the great lakes; in a city that vibrates with the dynamic energy of its millions of people; in a city still so young that the enterprising spirit of the pioneers who founded it has not been crushed by centuries of antiquity—should hold a memorial institution such as this that is looking to the future for the crowning glory of its service? May there come an inspiration and stimulation to this memorial and to the workers who give it life—who, as the years go by will lead it into the highways of progress, to the ultimate attainment of its ideals in every field of surgical usefulness and endeavor. To this end may this memorial endure as a lasting tribute to the starlit name it bears—John B. Murphy."

YOUNG'S PRACTICE OF UROLOGY.

The recent appearance of the two volume encyclopedic work on urology by Hugh Hampton Young marks an epoch in Ameri-

can surgery of which all Southerners might justly feel proud. It is with a feeling of glad satisfaction that we recall that this distinguished author is a native of our Sister State, Texas, that he has been the head of the department of urology, Johns Hopkins hospital and Johns Hopkins university, for the past thirty-one years, and that he served his country as director of urology of the A. E. F. in France during the World War. He has served as president of the American Association of Genito-Urinary surgeons; president of the American Urological Association; and is now president of the International Association of Urologists. He has, for years, been a corresponding member of the Association Francaise d'Urologie and the Deutsche Gesellschaft fur Urologie. In 1906 appeared his *Studies in Urological Surgery* (Vol. viii, Johns Hopkins Hospital Reports) and also *Hypertrophy and Cancer of the Prostate* (Vol. xiv., Johns Hopkins Hospital Reports). He has contributed one hundred and twenty-five papers on urological subjects to American and foreign medical journals. He is the founder and editor of the *Journal of Urology*.

From the University of Virginia Dr. Young received his A. M. degree in 1893 and his medical degree in 1894. In 1895 he pursued post-graduate work in urology at the Johns Hopkins university and shortly after this received his teaching as well as staff appointment at Hopkins—a position which has added radiance to his *alma mater* and has made his name an indispensable talisman among the urologists of the world. He was married to Miss Bessy Mason Colston, of Baltimore.

That he should have accompanied General Pershing on the *Baltic* to England and that he should have served in France until after the armistice is better understood when we realize that Dr. Young comes from military stock; he is the son of Gen. William Young and grandson of Gen. Hugh Young, who fought in the Civil War. It is

however not so widely known that Dr. Young, at the age of sixteen, had chosen the army as a career and rose to a first lieutenant. He soon gave up arms for medicine.

His *Practice of Urology*, just from the Saunders press, is in two octavo volumes totaling 1433 pages, with 1010 illustrations—20 beautifully done in colors—by the artist Wm. P. Didusch. The work itself was compiled with the able assistance of Dr. David M. Davis and Dr. Franklin P. Johnson. The fact that the treatise is based upon a study of 12,500 cases observed in the Brady Urological Institute in itself makes the work unique. The volumes are tangible evidence of the many years of painstaking study and clinical investigation. Thoroughness pervades. To read from its pages makes one feel that he is listening to the master speaking in that suave, convincing style that, for so many years, has kept his listeners rigidly attentive so as to miss none of the sound philosophy he so graciously imparts to the young medical student as well as to the older post-graduate. His *savoir faire* is inimitable.

Volume I deals with the physiology and pathology of micturition; obstructive uropathy; urogenital infection and infestations; urolithiasis; benign hypertrophy of the prostate; and, neoplasms of the urogenital tract. Volume II takes in malformations and abnormalities of the urogenital tract; ulcerative lesions; traumatisms and foreign bodies; ulcerative lesions of the external genitalia; diagnostic significance of special symptoms; the examination of the urologic patient; all operations on urogenital organs; urology in infancy and childhood; urologists in war; testicular and prostatic organotherapy; and, the study and teaching of urology.

The Author presents, in a most lucid and detailed fashion, the operations which have justly made him world-famous. His operation for the removal of the prostate via the perineal route is graphically presented,

step by step, both in illustrations and text. Not the least valuable, the reader will find the analyses tabulated at the end of each chapter on operative cases observed at the Brady. For over fifteen years the medical profession have awaited the publication of just such a work. Young's *Practice of Urology* is here! Need we say more?

CHIROPRACTORS AGAIN.

The efforts made to put through the last legislature, laws authorizing the chiropractors to practice medicine in this state, failed as they always have in the past, much to the credit of the law makers and their advisors. It can be said without fear of successful contradiction that the practice of medicine in Louisiana is on as high a plane of dignity and honor, as well as efficiency, as it is in any other state in this country. We are particularly free from bickerings and controversies within the profession, and we are also particularly free from the various cults and quacks that prey upon the ignorant and distressed in most other states.

At first thought, one who is at all informed about the nature of disease and remedies therefor, could hardly believe that any support whatever would be given to these people who seek to be permitted to treat the sick without possessing any considerable knowledge of the anatomy and functions of the human body or the causes and nature of the diseases they pretend to cure. Their own claims as to the causes of disease and the remedies they employ are too ridiculous to command the serious consideration of sensible people. Still they have a following. There were legislators who championed their cause at the last legislature and also some two or three hun-

dred people from about over the state who went to Baton Rouge on a special train to substantiate the claims of wonderful cures that have been wrought by "chiropractic." Those of the medical profession who were present and witnessed this spectacle must have recognized that a large part of those people are afflicted with mental states for which there is no remedy. They deserve our deepest sympathy, and our forbearance so long as they do not jeopardize too greatly the health and lives of other innocent people, many of whom are helpless. These would be jeopardized by legalizing practice of medicine by incompetents as the proposed law would have done.

One thing that often prevents the layman from forming a correct opinion on this matter is his failure to recognize the dependence of intelligent treatment upon anatomy, physiology, pathology and diagnosis. He does not realize how much knowledge and scientific training is necessary before one is able to make even reasonably correct diagnoses on which all intelligent treatment is based.

Those of the medical profession or others who have occasion to discuss the subject with laymen, should point out the necessity of correct diagnosis, which is assured only by adequate fundamental knowledge, before intelligent treatment can be applied. Otherwise treatment would be guess work and would often be harmful instead of beneficial. It often occurs that the diagnosis is far more important for the individual as well as for others, than the treatment. To license these people to treat disease would also license them to make diagnoses which they are utterly unable to do, for lack of knowledge if not for lack of other needful qualifications for managing sickness and distress in our fellowman.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

TRANSACTIONS OF THE ORLEANS PARISH MEDICAL SOCIETY.

During the month of July there was held one meeting of the Board of Directors and the Second Quarterly Executive Meeting.

The Board of Directors has completed the proposed revision of the By-Laws and same will be submitted to the Society for their consideration during the fall.

Dr. H. S. Cocram, who retiring from practice has resigned from Active Membership in this Society, was elected to Honorary Membership.

The resolution relative to the purchase of a Domicile Site was voted down, thus closing the matter for the present time.

The Hospital Abuse Bill No. 99, as introduced by Mr. John Dart, Jr., has finally become a law and is now known as Act 62 of the General Assembly, 1926. The complete report of the Hospital Abuse Committee including the wording of this law is included in this bulletin.

The Board of Administrators of the Tulane Educational Fund have offered the following resolution which was presented to the Society by Dr. M. J. Magruder, a member of the Tulane Board. The kind offer of the Tulane Board of Administrators was gladly accepted at the Executive Meeting of the Society and a letter of thanks and appreciation was sent to this Board for their kind offer.

Whereas: There exists at present an arrangement between Tulane University and Orleans Parish Medical Society whereby the Society is extended the privilege of conducting its meeting and housing its library in the Hutchinson Memorial Building, and

Whereas: It is the purpose of Tulane University to foster and promote higher education and through its Department of Medicine co-operate with the organized medical profession in the advancement of medical science;

Be it resolved: By the Board of Administrators of the Tulane Educational Fund that we wish to extend to the Orleans Parish Medical Society the assurance of our good will and desire to continue the existing cordial relations, which will in no way be effected by the contemplated erection of a new building for the School of Medicine; other than a provision for more modern and better facilities for conducting the work of the Society.

The Board of Directors through a sub-committee has selected the orator for the Stanford E. Chaille Oration, this oration will be delivered on the second Monday of November, the orator being Dr. Allan O. Whipple, of New York, Professor of Surgery at Columbia. The title of his paper will be "The Spleen and Its Relation to Blood Dycrasias."

The following resolutions were adopted at the Executive Meeting of the Society:

Whereas, By the Will of God, Dr. Marion H. McGuire, our confrere, was taken from among us.

Therefore be it resolved, That this Society desires to express to the family of Dr. McGuire its regret and sincere sympathy in its bereavement.

Be it further resolved, That a copy of these resolutions be spread upon our minutes and a copy be sent to the bereaved family.

REPORT OF TREASURER FOR JUNE.

Actual Book Balance 5/31/26	\$3,159.74
Receipts during June	310.00
<hr/>	
Total Receipts	\$3,469.74
Expenditures	552.55
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Bank Balance: 6/30/26	\$2,917.19

REPORT OF LIBRARIAN FOR JUNE.

Bibliographies have been prepared during June on subjects as follows:

Multiple Dislocations of the Metatarsal Bones.

Food Value of the Banana.

Gonorrhea in the Female.

Pyelitis in Pregnancy.

These lists have been placed on file in the Library for use of the membership.

The Library has been the recipient of a gift of 52 volumes from Dr. H. W. E. Walther, during June, of which 42 are new in our collection. These books will form a valuable addition to the Genito-Urinary section of our Library. Note of the more recent volumes is made in the accompanying list.

Sixty books have been added during June. Of these 44 were received by gift, 1 by purchase and 15 from the New Orleans Medical and Surgical Journal. A list of notable accessions is as follows:

Osler: Modern medicine. vol. 2. 1926.

Stone: Blood chemistry colorimetric methods. 1926.

Greene: Medical diagnosis. 1926.

- Potter: Compend of materia medica. 1926.
 Mayo foundation: Heredity. 1925.
 Barrett: Man, his making and his unmaking. 1926.
 Taylor: Psychotherapy. 1926.
 Gould: Pocket cyclopedia of medicine and surgery. 1926.
 Moore: Medical ophthalmology. 1925.
 Swanzy: Diseases of the eye. 1925.
 Allen: Kidney diseases and high blood pressure. n.d.
 Odeneal: Mouth, throat, nose and ear. 1926.
 Foote: Diseases of the newborn. 1926.
 Miller: Submucous endocapsular tonsil enucleations. 1926.
 Cabot: Facts on the heart. 1926.
 Crotti: Thyroid and thymus. 1922.
 Mann: Physiological histology. 1926.
 Casper: Handbuch der Cystoskopie. 1919.
 Hirsch: Compend of genito-urinary diseases and syphilis. 1925.
 Billroth: Medical science in the German universities. 1924.
 Gurd: Infection, immunity and inflammation. 1924.
 Pilcher: Surgical pilgrim's progress. 1925.
 Craig: Wassermann test. 1918.
 Grover: High frequency practice. 1925.
 Bayliss: Principles of general physiology. 1920.
 Voelcker: Urologische Operationslehre. 1921.
 Pennington: Diseases and injuries of the rectum, anus and pelvic colon. 1923.
 Mills: Within the atom. 1921.

Two hundred additional filing boxes have been purchased and are being used for the incomplete journal files, thereby preserving these unbound magazines for available use, until such times as the volumes may be completed and bound.

Respectfully submitted by
 DANIEL N. SILVERMAN, Librarian.

HOSPITAL ABUSE COMMITTEE REPORT. SECOND QUARTER.

July 12th, 1926.

To the Officers and Members, Orleans Parish Medical Society.

Gentlemen:

The following Bill No. 99 by Mr. Dart, now known as Act 62, General Assembly, 1926, has been promulgated.

"Concerning the admission of applicants to state supported charity hospitals, and providing a penalty for violation of same.

Section 1. Be it enacted by the Legislature of Louisiana that it shall be the duty of the Board of Administrators of the State Charity Hospital, or hospitals supported by the State, to refuse admission for treatment to persons not poor and destitute; provided, that in no case shall persons of any description be refused emergency treatment; that the Board of Administrators of such hospitals shall make rules and regulations for the admission of persons to said hospitals, for the purpose of confining admissions to said hospitals to the poor and destitute.

Section 2. That the Board of Administrators shall provide a questionnaire to be answered by all applicants for admission to said hospitals before any person shall be admitted to said hospitals; that any person who is admitted to said hospitals through fraud or misrepresentation on the part of an applicant for admission, or any one acting for said person, shall be guilty of a misdemeanor and upon conviction shall be fined not less than five dollars nor more than twenty-five dollars, or confined in the parish prison for not more than ten days, or both, at the discretion of the court.

Section 3. All laws or parts of laws contrary to or inconsistent with the provisions of this act, be and the same are hereby repealed."

Your Committee has labored diligently and has spared no effort or personal discomfort in fostering the cause. We visited Baton Rouge nine times in the interest of the Bill. Approximately 300 letters and telegrams were sent to the Legislature, and to other individuals, principally Doctors in the State at large, soliciting their help and influence in behalf of our measure. Every possible legitimate means were employed to accomplish our purpose.

The Bill was opposed by the Board of Administrators of the Charity Hospital. These gentlemen contended that the law was too drastic and also that the Hospital, in Cases able to pay, should assess a charge within the means of the person treated; in other words, the Charity Hospital be converted into a part pay institution.

The viewpoint of these gentlemen is expressed in the following quotations taken from the daily press:

The Times-Picayune, May 18th, has the following:

"As drawn roughly last night, the bill would give Charity Hospital the right to question people who come to the Hospital for treatment and would authorize the institution to sue those able to pay. It provides, however, that no person shall be refused emergency treatment. The bill proposed by

the doctors provided more stringent regulation of the alleged abuse of the free hospital privileges.

William Pfaff, member of the Hospital Board, advocated investigation of suspicious cases by the Social Service Department, suggesting that where full payment could not be obtained the patient be asked to pay what he could.

George J. Glover and others objected to any law touching on the ability of patients to pay, but finally agreed to the proposed bill."

Also in the issue of Times-Picayune of May 21st, we read:

"Expressing belief that some of the provisions of the Charity Hospital Bill introduced by Representative John Dart of New Orleans are too drastic, a substitute Bill was brought to Baton Rouge today by Dr. W. W. Leake, superintendent; Fred W. Matthews, secretary-treasurer, and J. A. Dumaine, members of the Board of Directors of the hospital.

Under the terms of the Dart Bill, said to be approved by the Orleans Parish Medical Society, admission to Charity Hospital except emergency cases, is restricted to those of proven inability to pay. It also provides for prosecution in the recorder's court of persons who gain admission fraudulently. The new bill brought up by Dr. Leake and Secretary Matthews eliminates the prosecution feature, and provides that the hospital authorities shall have the right to sue persons able to pay for services rendered them."

And in the Times-Picayune of May 23rd, under the following caption, "*Fight Over Hospital Bill*," is the following:

"A stiff fight in committee over the Charity Hospital abuse bills is in sight. The doctors' bill introduced by John Dart would prohibit the entrance of any patient able to pay for treatment except in emergency cases. William Pfaff, President of the Board of the Hospital, Superintendent Leake and others oppose the measure and want in its place a law that will enable the social service of the hospital built up so that where cases of able-to-pay people are handled that the social service authorities of the hospital may investigate and assess a certain charge within the means of the person treated, and collect it by court proceedings, if necessary.

President Pfaff refuses to approve any measure that would deny anyone the right to enter the institution. He thinks the hospital should be able to handle the cases of the moderately poor as well as the very poor, and fix such a charge, after investigation, as will not reduce the persons treated

from a producing unit in the community to a state of indebtedness and dependency.

The medical staff of the hospital strongly favors Mr. Dart's bill. It is the contention of Dr. Paul Gelpi, head of the Staff, and A. E. Fossier, chairman of the Committee on Hospital Abuse, that the admission of able-to-pay patients prevents the admission of very poor and destitute persons."

And editorially, the New Orleans Item, of May 19th, voiced the following:

"Disapproval by the Directors of the Charity Hospital of a proposed bill forbidding hospitals to accept for charity treatment persons not destitute and making it a misdemeanor punishable by fine and imprisonment for anyone not destitute to obtain charity treatment, was sensible and proper. The bill is sponsored by the Parish Medical Society."

From these quotations the strong opposition encountered by your Committee in the passage of the law may be appreciated.

The Bill passed unanimously the Public Health and Quarantine Committee of the House of Representatives, and a few days later also overwhelmingly passed the House of Representatives, notwithstanding the fact that Mr. Frymire, the leader of the New Orleans delegation, opposed the bill on the floor of the House. It passed the Health, Quarantine, Drainage and Charitable Institution Committee of the Senate by a vote of 5 to 3, and the Senate by 32 to 2. Senator Thoele Thomas dissenting. In both committees the bill was opposed by the legislative committee of the Board of Administrators of the Charity Hospital, Messrs. Dumaine, Pfaff, also Dr. Leake and Mr. Matthews. In the Senate Committee Mr. Sylvan Levy presented arguments against the bill, and we regret to record the fact that the only discordant note in our previously harmonious relationship with the Board of Administrators was sounded by Mr. Levy, who attacked and impugned the motives of the medical profession of the City and of the State for their sponsorship of the bill. The Bill became a law without the signature of the Governor according to Article V, Section 15, of the Constitution of the State of Louisiana.

I wish to take this occasion to express my sincere appreciation and heartfelt thanks to the members of your Committee, Drs. Jules Dupuy, Emmett L. Irwin, Jerome E. Landry, Lucien LeDoux and Maurice Provosty.

The members of the Profession should greatly appreciate their efforts. They gave unstintingly of their time and devoted their whole energy to

the cause. All credit is due to them, for it is only by their sheer determination, unswerving loyalty, and to the absolute disregard of their time and efforts, that this victory was made possible.

Your Committee also acknowledges the great help given by Dr. Paul J. Gelpi, President of the Visiting Staff of the Charity Hospital for his usual Disraelian diplomacy, the wisdom of his counsels and his inexhaustible energy, both here and in Baton Rouge, have been a most valuable factor in the promotion of our cause.

To the President and the Secretary of the Society we wish also to express our appreciation for their valuable help, which has proven to be a great asset.

We wish also to acknowledge the support given by the Louisiana State Medical Society in the Monroe Convention and through its President, Officers and Legislative Committee, who materially helped in Baton Rouge.

The Committee also gratefully acknowledges the valuable assistance and unqualified support given by the Board of Administrators of the Charity Hospital of Shreveport, and by the members of its Visiting Staff, and also the Caddo Parish Medical Society.

This Society is greatly indebted to Representative P. H. Gilbert, who championed the cause in the Senate, for their influence and diplomacy contributed to a very large degree to the passage of the law.

To our confreres, Drs. Brown, Drouin and Jordan, Representatives to the General Assembly of the State, stalwart champions of medical progress in Legislature, is due a vote of thanks and appreciation for their interest, energy and devotion to the cause of the poor, and the elimination of hospital abuse which has so long operated in the Charity Hospital to the detriment of those deserving free hospital care.

Respectfully submitted,

A. E. FOSSIER, M. D., Chairman.

CANCER, VITAMIN IMBALANCE AND ROENTGEN-RAY ACTIVITY

Further report is made by Montrose T. Burrows, Louis H. Jorstad and Edwin C. Ernst, St.

Louis (Journal A. M. A., July 10, 1926), on their experiments dealing with the relationship in an etiologic way of certain dietary constituents and cancer. In the light of these studies, cancer is only the result of anything that leads to an excessive production of vitamin B or removes the vitamin A or growth inhibitor from small areas of tissue in the body. Roentgen rays act only to increase the vitamin B content in the tissues. In the proper dosage, therefore, it may produce cancer as it may through the excessive production of vitamin B destroy cancer. Cancer is only the result of a vitamin imbalance. Normal life depends on a proper balance between vitamins A and B. The problem of the cure of cancer is the restoration of this balance. The problem of the prevention of cancer is the prevention of such imbalances taking place. Roentgen rays act on the organism to produce vitamin B. Larger doses of these rays lead to the liberation of larger amounts of vitamin B with a secondary production of vitamin A. These larger doses of roentgen rays lead always to an early exhaustion of the rat, while larger doses repeated over long intervals do not cause this early exhaustion. The roentgen ray becomes important in the cure of cancer in that it liberates an excess of the archusia or vitamin B from the cells when given in the proper doses. As must be noted the cancerous tissues contains already a high content (S³) of the archusia. Only a slight stimulation is sufficient to increase this amount to a value of S⁴, which causes the cells to degenerate. The normal tissue contains much less archusia. The same dose acting on them may not even cause them to grow. The first problem for the advance of roentgen-ray therapy is a proper and well controlled dosage. The second problem is to produce the proper reaction in the surrounding normal tissues. Too great a dose on these tissues must cause a decrease in blood supply and make them favorable for the spread of the cancer. The prevention of this spread of the cancer is the protection of the blood vascular system in these regions. As shown above, the vascular system is only the path of inflow of the vitamins from without. It is maintained through a proper balance of vitamins A and B. The progress in roentgen-ray therapy, as is evident from these studies, will come first through the establishment of a uniform method of measuring (one of us has undertaken and instituted methods for such procedure), and the establishment of proper dietary and nutritional conditions in the patient before such therapy is instituted.

LOUISIANA STATE MEDICAL SOCIETY

H. Theodore Simon, M. D., Associate Editor.

MONTHLY BULLETIN OF THE SHREVEPORT MEDICAL SOCIETY.

At the Scientific meeting in July, Dr. John N. Thomas, of the Central Louisiana State Hospital at Pineville, will present "Increasing Insanity in this Country and What Should Be Done to Prevent It." Dr. A. A. Garrison, D. D. S., member of the Shreveport Dental Society, will read a paper on "Focal Infections." We hope that every member will try to be present to give these well known men a welcome to our Society.

At the Scientific Program on June 1, 1926, Dr. Webb read a paper on Banti's disease instead of Spleno-myelogenous Leukemia, which was an error on the part of the program committee. Dr. Webb's paper was very interesting and well presented with report of three recent cases at the Highland Clinic. This paper was discussed by Drs. Lloyd, Butler, Rutledge, Barrow and Webb.

Dr. Bodenheimer gave a very interesting discussion of the life and works of Dr. Ambrose Pare.

Dr. Picard reported a case of congenital hydro-nephrosis of the left kidney in a colored baby, kidney was removed and baby lived 23 days, but with no urine elimination during this time.

A special meeting of the Shreveport Medical Society was called to order on June 12 at 8 P. M. at the North Louisiana Sanitarium for the purpose of taking action on Legislation now pending relative to Hospital abuse. The following 21 members were present: Drs. Mosely, Herold, Barrow, Willis, Sr., Boyce, Bodenheimer, Sanderson, Lambeth, Lucas, Blume, Paul, Crain, Harwell, Hargrove, Rigby, J. M. Gorton, Alverson, Douglas, Dickson, Hamner and Phillips. The following is the request and signatures of those calling for the meeting:

"We, the undersigned doctors, respectfully request President Crain to call a special meeting of the Medical Society to meet at the North Louisiana Sanitarium at 8 P. M. for the purpose of taking action on legislation now pending relative to Hospital abuse. Signed: Drs. S. C. Barrow, D. H. Alverson, C. E. Hamner, F. G. Ellis, J. M. Gorton and W. S. Harmon."

Dr. Barrow in a general way gave the details leading to the request for special meeting. Dr. Herold read resolutions adopted by the Orleans Parish and State Medical Societies. Dr. Moseley read the bill which was passed by the House of Representatives.

Dr. Sanderson made a motion that we wire our Senators and Representatives that the Shreveport Medical Society desires to express approval of a bill before the Legislature excluding patients from the Charity Hospitals who are able to pay and preserve the hospitals for the indigent sick and wounded and let the penalty be criminal and not civil.

Dr. Gorton then made a motion that a committee be appointed to retire from the meeting and frame resolutions to be presented to the Society. The President appointed on this committee, Drs. Douglas, Rigby and Alverson. The following resolutions were presented:

"The Shreveport Medical Society unanimously wishes to endorse a Hospital Abuse Bill which will exclude all patients from the Charity Institutions of the state who are able to pay reasonable fees to private hospitals.

"Further, it is in favor of criminal prosecution of those who abuse and take advantage of this ruling.

"Further, it is not in favor of having pay wards in these Charitable Institutions or charging fees for work done therein, so that the Charity Hospitals will be able to properly care for the indigent sick and wounded alone."

Dr. Willis made a motion that the resolutions be adopted, which was duly seconded and passed.

Dr. Bodenheimer then made a motion that the Secretary send a night letter to each of our Senators and Representatives conveying the sentiment of these resolutions and to be signed by the President and Secretary.

No further business the meeting adjourned at 9:10 P. M.

W. R. HARWELL, Secretary.

The Webster Parish Medical Society met Friday, July 2nd, at the Imperial Hotel for lunch. After lunch the meeting was called to order by the President, Dr. J. B. Benton.

Dr. Paul Crutsinger made a talk on Diathermy and reported some cases. Dr. C. M. Baker gave some case histories on abdominal pain. A good many informal talks were made by the other members.

Dr. J. E. Rooks and Dr. E. B. Godfry were elected members of the Society.

A suggestion was made by the President that the Society meet more often. After discussion it was decided to hold meetings every two months and lunch together and have short scientific programs afterward. In this way the doctors from over the parish will not lose so much time in attending the meetings.

NEW ORLEANS GYNECOLOGICAL AND OBSTETRICAL SOCIETY.

At the annual meeting of the Society, the following officers were elected for 1926-27: Dr. W. D. Phillips, President; Dr. M. J. Gelpi, 1st Vice-President; Dr. T. B. Sellers, 2nd Vice-President; Dr. H. E. Miller, Secretary; Dr. H. V. Sims, Treasurer.

The Council is composed as follows: Drs. J. W. Newman, P. Graffagnino and C. J. Miller. The retiring President, Dr. W. E. Levy, reviewed the activities of the Society during the past year. Scientific papers were presented by Drs. J. F. Dicks, W. E. Levy and C. J. Miller, at the meeting. The annual dinner of the Society was well attended and proved a very enjoyable affair. Dr. W. D. Phillips, President, named the personnel of the committees and outlined some of the plans for the coming year.

RE-OPENING OF THE FRENCH HOSPITAL.

The formal re-opening of the French Hospital took place Tuesday, June 29th, 1926, following the inspection of this modern hospital by the physicians of the city. The Directors of the French Society of which Mr. Octave Garsaud is President, are Administrators of the Hospital, with Mr. O. Bildstein as Superintendent.

Dr. Octave C. Cassegrain, Tulane, 1915, has been appointed Surgeon-in-Chief, and will direct and develop the professional side of the institution.

This Hospital is ideally situated and is the only Hospital below Canal Street. The appearance of the buildings and grounds have been improved and the interior completely renovated. It has three floors and is of 110 bed capacity, equipped with two operating rooms, a delivery room and Clinical and Radiological laboratories, and a Pharmacy department.

Dr. W. H. Harris and Dr. A. Friedrichs are the Pathologists and Dr. L. Menville and T. H. Oliphant are in charge of the X-ray department. Dr. E. E. Allgeyer is the Anesthetist.

The resident Staff consists of three internes and the necessary complement of graduate nurses.

At the opening exercises addresses were made by the following: M. de Simonin, Consul-General of France; Mr. O. Garsaud, President of the French Society; Dr. O. C. Cassegrain, Surgeon-in-Chief; Dr. W. H. Harris, T. H. Oliphant and Lucien Ledoux. This hospital will prove a welcome addition to the hospital facilities of this city.

LOUISIANA DERMATOLOGICAL SOCIETY.

The Louisiana Dermatological Society was organized May 24th, 1926, at a meeting held at the Touro Infirmary.

Applications for membership will be received from any dermatologist in the State of Louisiana affiliated with his local medical society and the American Medical Association.

President, Dr. H. E. Menage, Medical Building, New Orleans, La.

Secretary, Dr. T. A. Maxwell, 1119 Union Indemnity Building, New Orleans, La.

On May 24, 1926, the honorary degree of LL.D. was conferred upon Dr. Rudolph Matas, Professor of Surgery, Tulane University, by the University of Alabama.

On June 8th, 1926, the graduating class of the Medical School of Tulane University presented a full-size portrait of Dr. Rudolph Matas, Professor of Surgery. Dr. Geo. H. Beevers, of the Class, made the presentation, and Dean Bass accepted the portrait for the Faculty. Dr. Matas delivered the farewell address to the class in which he revived many interesting and striking episodes of his career as a teacher in the Medical School from 1885 to 1926, ten years as Demonstrator and thirty-one years as Professor of Surgery. The portrait, painted by Mr. Harry A. Dolan, has been placed in the library of the Medical School.

The John B. Murphy Memorial Building, probably the most beautiful building ever erected to the exclusive cult of Surgery, was dedicated in Chicago (48 East Erie Street) on Thursday, June 10, 1926. The building, which has cost approximately \$800,000, was presented to the American College of Surgeons by Mr. Leroy A. Goddard, President of the J. B. Murphy Memorial Association. Dr. Rudolph Matas, President, accepted the building for the College.

On the following day, June 11, the American College of Surgeons held its first session in the

Memorial Hall. The hall was crowded with a very brilliant and select audience, who listened to the addresses delivered by Drs. Franklin H. Martin, George W. Crile, W. W. Chipman, of Montreal; George David Stuart, of New York, and by Dr. Rudolph Matas, who presided over the meeting.

On Tuesday, June 29, 1926, the retiring internes of the Touro Infirmary were given a farewell banquet by the Administrators of the Hospital. Addresses were delivered by Mr. Rosen, President of the Board; Dr. I. I. Lemann, Dr. Rudolph Matas, Dr. Spellman, Superintendent, and Drs. Lockhard, Cohen and Dr. Warren, who spoke for the Interne Staff. The meeting was presided over by Dr. J. Numa Roussel, Chairman of the Executive Staff.

BULLETIN NO. 3

TUBERCULOSIS AND PUBLIC HEALTH ASSOCIATION OF LOUISIANA.

535 St. Charles St., New Orleans.

It is of interest to all tuberculous workers to know that the decline in the Tuberculous death rate is continuing. For the Registration Area the records show a saving of three lives more in 1924 than in 1923 per 100,000 population. When the final figures are available for 1925, the decline will probably prove to be even greater. The total number of deaths reported in Louisiana for the past four years is as follows: 1922, 2,052; 1923, 1,945; 1924, 1,926; 1925, 1,918.

The National Tuberculosis Association has recommended that local organizations conduct Anti-Spitting Campaigns sometimes during the year, preferably now, and has prepared posters and a manual which contains valuable suggestions as to how a local organization can go about putting on an Anti-Spitting Campaign. Let us send you a copy of the manual.

The National Tuberculosis Association and its affiliated branches are now conducting a co-operative campaign with the National Masonic Tuberculosis Association, for the purpose of interesting the members of this influential order in the construction of a sanatoria and in other work against Tuberculosis.

Plans are now fairly well advanced for the meeting of the International Union Against Tuberculosis in Washington. The dates are September 30th, October 1st and 2nd, and those for the

National Association Convention which immediately follows, are October 4th to 7th. This occasion will bring together the greatest gathering of authorities on Tuberculosis ever held in the United States, and everyone who can possibly arrange to do so should plan to attend the meetings, as the opportunity will not be offered again soon.

The National Tuberculosis Association has issued a new book entitled "A Health Education Procedure," by Mrs. Kathleen Wilkinson Wooten. It is a companion volume to "Health Training in Schools," but it enters into a field almost untouched by "Health Training," and is the result of eight years experience by Mrs. Wooten in the correlation of health in the class room with every grade and class. It is essentially a book for the teaching and equipment of teachers, written by a trainer of teachers. Let us send you descriptive circular of this volume.

DR. ALFRANIO DE AMARAL

Head of New Antivenin Institute of America.

NEW SNAKE-BITE SERUM LABORATORY.

The Antivenin Institute of America—the only laboratory of its kind on the North American continent—recently began its existence as a department of the Mulford Biological Laboratories at Glenolden, Pa. The director of this new laboratory is Alfrano de Amaral, B. Sc. and L. M. D., D. P. H., of Sao Paulo, Brazil.

Dr. Amaral is in this country on leave of absence from the Brazilian Government's Serum Therapeutic Institute, at Sao Paulo, Brazil, of which he is chief. He is a Professor in Harvard University Institute of Tropical Biology and Medicine. He was invited to come to the United States to study the problem of the increasing number of fatalities from snake-bites. Some fifty deaths from snake-bites last year, in this country alone, have served to focus the attention of health authorities on this growing menace.

Snake-bite poisoning has become a matter of considerable economic importance in certain sections of Central and North America, where many agricultural, engineering and construction workers have been bitten. The Serum Therapeutic Institute of Brazil has done a great work in preparing anti-snake-bite serum, or antivenin, but the demand for these specifics from the North American Continent is greater than they can supply.

The importance which attaches to this new project is everywhere recognized. The Brazilian Government itself has generously granted a two years' extension of Dr. Amaral's leave of absence,

to permit him to organize and establish the Antivenin Institute and to start the routine production of specific antivenins.

Dr. Amaral's first work, in which he is now engaged, is to collect a supply of venom with which to begin the treatment of horses, and also to arrange for the collection of the principal species of poisonous snakes through the south and southwestern United States, also in Mexico, which will serve as the source of further supplies of the poison.

Before the end of the summer, sufficient collections of venomous snakes will have been made, and equipment installed, so that the immunization of horses can be started. It is anticipated that a polyvalent antivenin will first be produced. Later, specific antivenins will be produced for use in certain countries. When a supply of the serum has been worked up, distribution centers will be arranged for in localities where the snake-bite problem presents itself in urgent form, so that the serum may be quickly available to every sufferer.

It is expected that Antivenin Mulford will be ready for distribution about January 1, 1927.

DR. SUN SAVES INDIAN BABIES FROM RICKETS.

Although analysis shows Chippewa Indian babies have a higher percentage of physical defects than white children, and that variation between them in the incidence of rickets among the breast-fed babies is slight, in the case of artificially-fed children rickets occurs with twice the frequency among whites as among Indians. This, it is suggested by the Minnesota State Department of Health, is due to the preventive effect of the greater exposure of Indian babies to direct sunlight. Minnesota's Child Hygiene Division has held during the past two years a series of infant and preschool clinics for children of the Minnesota Chippewa Indians, and two Chippewa Indian nurses have been employed to do maternal and infant hygiene nursing.

CHILDREN'S CLINIC AT NORFOLK, VA.

More than 800 babies under 18 months are under supervision of the Children's Clinic at Norfolk, which in twelve years has developed from an outgrowth of the visiting nurse service of the King's Daughters into an organization housed through the generosity of the local Kiwanis Club in a modern 3-story building and maintaining a staff of 20 visiting physicians, 4 nurses, a social service worker, a dentist, and other special workers who give occasional service. Clinic sessions are held three times a week.

AMERICAN BOARD OF OTOLARYNGOLOGY.

The next examination given by the American Board of Otolaryngology will be held in Denver, Colorado, at the University Hospital, on Monday, September 13, 1926. Application should be made to the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

ANNUAL BEAUMONT MEMORIAL AWARD.

To encourage investigations of alimentary tract function, Dr. Frank Smithies, Chicago, has presented to the School of Medicine of the University of Illinois, bonds in amount sufficient to yield annually, in perpetuity, not less than \$100. This fund is known as "The William Beaumont Memorial Fund," and the income therefrom as "The Annual Beaumont Memorial Award."

The award is to be made each year to the research or clinical investigator, who, in the judgment of a Faculty Committee, has contributed the most important work during the year in the field designated.

The first award will be made in 1927. Manuscripts covering investigations do not have to be entered specifically for the award nor is it required that they be submitted to the Faculty Committee. The award is to be granted by the committee after it has considered carefully all investigations published during any year in periodicals throughout the United States. Thus, the award is available to workers in any institution, and is not confined to members of either Faculty or Student Body of the University of Illinois.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination.

MEDICAL OFFICERS.

Applications for medical officer positions will be rated as received at Washington, D. C., until December 30. The examinations are to fill vacancies in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Veterans' Bureau, and other branches.

The examinations are of five grades: Junior medical officer, assistant medical officer, medical officer, and senior medical officer.

For the Departmental Service at Washington, the entrance salaries range from \$1,860 a year for the junior grade to \$5,200 a year for the senior

grade. Juniors may be promoted to \$2,400 and seniors may be promoted to \$6,000 after the six months' period of probation. Higher-salaried positions may be filled through promotion in accordance with the civil service rules. Promotion from grade to grade may also be made in accordance with the civil service rules as vacancies occur. For field branches the salaries are approximately the same except that deductions are made where quarters and subsistence are furnished and where part-time duty, only, is required.

Eligibles are needed who are qualified in general medicine and surgery. There is especial need for eligibles qualified in the various specialties. Practically any specialty may be named by the applicant.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

SPORADIC MENINGOCOCCUS MENINGITIS

Prior to the introduction of serum therapy for sporadic meningococcus meningitis, the mortality of the disease in the first year of life approached 100 per cent. In infants under 1 year of age treated by Stafford McLean and John P. Caffey, New York (*Journal A. M. A.*, July 10, 1926), with serum, recovery occurred in approximately 50 per cent. In children between the ages of 1 and 5 years, 85 per cent recovered. The later growth and development of these children with apparent complete recovery from their acute infection is of interest and of considerable importance. The authors have observed forty-four such cases (excepting two patients who died in the first year after discharge from the hospital) over a period varying from one to ten years, and these form the basis of their report. In ninety-seven patients with meningococcus meningitis treated with serum at the Babies' Hospital in the ten year period from 1916 to 1926, recovery occurred in fifty-nine, or 61 per cent. These cases were all of the sporadic type. The diagnosis in forty cases was proved by finding meningococci in the cerebrospinal fluid. In the remaining four, the diagnosis was made because of the purulent character of the fluid in which no organisms of any variety could be found. The

serum used was polyvalent. It was made in the laboratories of the New York State Department of Health, of the Health Department of New York City, or of the Rockefeller Institute. The patients varied in age from 35 days to 4½ years. Follow-up examinations have been made in forty-four of the fifty-nine cases. Twenty-five of these patients have been observed for three years or longer, and in this group, fifteen have been under observation from five to ten years after treatment. In the total number of cases followed, thirty, or 69 per cent, presented no abnormalities throughout the period of observation. Nine, or 20 per cent, showed serious sequelae, and death occurred in five, or 11 per cent. Four were cases of deaf-mutism, two of hydrocephalus, two of impaired vision, and one of mental deficiency. The time of occurrence of sequelae suggests the value of early treatment in their prevention.

SCARLET FEVER FOLLOWING NOSE AND THROAT OPERATIONS.

Of forty-eight cases classed as surgical scarlet fever at the Durand Hospital, from 1902 to 1926, Beatrice R. Lovett, Chicago (*Journal A. M. A.*, July 10, 1926), states that twenty followed operations, thirteen of which were on the nose and throat. Of these thirteen cases, seven were instances of scarlet fever following operations for cleft palate, two following resections of the nasal septum, and four following tonsillectomies. The intervals between operation and the first symptoms of the disease were: in two cases, two days; in six cases, three days; in two cases, four days, and in three, a few days. All patients had typical scarlet fever, and most of the cases were of the septic type. Complications were unusually numerous, including two instances of bilateral otitis media, two of unilateral otitis media, and two of sinus infections, making a total of six complicated cases in the series of thirteen. One patient, previously operated on for harelip and cleft palate, died following sloughing of the wounds, with profuse purulent discharge and double otitis media. Four nurses caring for this child caught the infection from him. In most of the cleft palate cases, there was sloughing of the tissues and imperfect closure of the defect, so that, although the wounds healed eventually, the operations were not very successful. The occurrence of scarlet fever in children following operations especially on the nose and throat suggests the wisdom of testing and immunizing the patients beforehand. This is particularly advisable preceding cleft palate operations, since most of the patients are at a susceptible age, and if scarlet fever develops, complications are frequent, and the results of the operation are poor.

MISSISSIPPI STATE MEDICAL ASSOCIATION

J. S. Ullman, M. D., Associate Editor.

The Homochitto Medical Society met July 8th, 1926, with Dr. L. H. Lamkin, President, in the chair.

The Committee on Library reported that they had permission from the Board of Education of Natchez to place their books in the Agnes Z. Carpenter Library, and the committee was instructed to arrange ways and means.

A committee consisting of Drs. Philip Beekman, J. S. Ullman, and J. W. D. Dicks was appointed to draw up suitable resolutions on the death of Dr. D. C. Warren, Union Church, Miss.

The report of the committee of the A. M. A. on "Medical Relief in Disaster" was adopted by the Society.

Clinical cases were presented by Drs. Marcus Beekman, E. E. Benoist, Philip Beekman, and J. S. Ullman.

The South Mississippi Medical Society met at Richton in June.

Dr. T. E. Ross, President of the Mississippi State Medical Association, visited the Tri-County Medical Society, the South Mississippi Medical Society, and the Northeast Mississippi Medical Society during the month of June.

He reports each Society as doing fine work. Let the good work go on.

The New Methodist Hospital at Hattiesburg now undergoing construction bids fair to be one of the model hospital buildings of the State when completed.

The foundations are now in and work will be rushed as fast as money and men will permit.

The equipment of the several departments will be the last word in modern science.

Dr. S. S. Turner of Hattiesburg died April 22, 1926.

The North Mississippi Six Counties Medical Society announces the following program for its next meeting in New Albany, Mississippi, July 21, 1926:

"Prevention of Deformities by the General Practitioner"—Dr. Willis C. Campbell, Memphis.

"Mouth Infections"—Dr. John J. Shea, Memphis.
"The Cause of Indigestion"—

Dr. H. W. Hundling, Memphis

"Food in the Prevention of Diseases"—

Dr. Seale Harris, Birmingham

"The Diagnosis of Tuberculosis"—

Dr. Henry Boswell of Mississippi

"Constipation"—Dr. L. Carl Sanders, Memphis

"Cardiac Stimulants, True and False"—

Dr. P. W. Rowland, Oxford

"Diarrhea in Infancy, Its Classification and Treatment"—Dr. E. Clay Mitchell, Memphis

Also papers by Dr. R. C. Bunting, Memphis, and Dr. Whit Rowland, Memphis. •

Dr. R. B. Caldwell, of Baldwin, recently spent several weeks in Tulane University taking a special course on the eye.

The North East Mississippi Medical Society met at Houston on June 15th. Dr. Hugh Gamble read a paper on "Glucose Therapy by Vein." Prominent among the visitors were Dr. T. E. Ross, Sr., of Hattiesburg, President of the Mississippi State Medical Association; Dr. Hardie Hays, of Jackson; Dr. J. B. Black, of Jackson; Dr. Carey Cheek, of Missouri; and Dr. Henry Hill, of Memphis. The next meeting of the Society will be held at Aberdeen in September.

Dr. W. A. Johns, of Corinth, spent several weeks recently in Chicago taking post-graduate work on eye, ear, nose, and throat.

Dr. R. B. Cunningham, of Booneville, was graduated from Tulane in June and is now associated in active practice with Dr. W. H. Sutherland, of Booneville, Miss.

The North East Mississippi Medical Society will have a full day for the December meeting which regularly convenes in Tupelo. The association has invited the Dentists, Pharmacists, and the Graduate Nurses to meet with them and to be represented on the program. Dr. C. C. Bass, Dean of the Medical School of the University of Tulane, has promised to take part in the program.

Dr. Hardie R. Hays has returned from a year's study of epidemiology at Johns Hopkins University and is now actively engaged in epidemiological investigations for the State Board of Health.

The Mississippi State Board of Health resumed the manufacture and free distribution of anti-rabies treatment to all citizens of the State after July 1st.

The Mississippi State Board of Health is preparing a splendid Health Exhibit to be placed on the "Know Mississippi Better" train. This train will leave Jackson on August 17th for a two weeks trip into a number of the Northern and Eastern States.

The Mississippi State Board of Health has two field deputies devoting their full time to investigational and educational work in stimulating the reporting of births and deaths in the State.

The State Hygienic Laboratory is manufacturing and distributing 50,000 ampoules of 1% silver-nitrate solution free to the doctors and midwives of the State annually.

At the regular June Meeting of the State Board of Health, the following applicants were successful in passing the examination and securing licenses to practice medicine:

Temple Ainsworth, M. D.
 Stephen Aixel, M. D.
 George Benjamin Baylis, Jr., M. D.
 Robert Blythe Cunningham, M. D.
 Mark Stovall Dougherty, M. D.
 Maitland Marion Huffman, M. D.
 Louis B. Leggio, M. D.
 Singleton McDonald, M. D.
 John Ralph Markette, M. D.
 Jessie Lawrence Roark, M. D.
 Murdock M. Snelling, M. D.
 Daniel W. McDonald, M. D.
 Hays Newton Holyfields, M. D.
 John Richard Edwards, M. D.
 Wm. Lauch Hughes, M. D.
 Prentiss Edward Smith, M. D.
 Gideon Douglass Williams, M. D.
 John Wm. Shackelford, M. D.
 Talmage Lyles Wilson, M. D.

The following men were granted reciprocal licenses:

Cap James Carter, M. D.
 Charles Perry Coogle, M. D.
 Gilruth Darrington, M. D.
 Theodore Wilbert Kemmerer, M. D.
 Morriss DeWitt Kelley, M. D.
 Bron-Dee Blackwelder, M. D.
 Darel Wesley Whitaker, M. D.
 Frank Lee Van Alstine, M. D.
 James Ward Jackson, M. D.

Frederick Wm. Haudenschild, M. D.
 Will Herbert Strickland, M. D.
 Roderick Gambrell Lander, M. D.
 Wm. Johnson Cavanaugh, M. D.

Miss Hunt, Superintendent of Nurses at the Natchez Hospital, is now a patient at the State Sanitorium at Magee, Miss.

Dr. E. H. Galloway has been in New York for more than a month taking post-graduate work in "Neuro Surgery" under Dr. LaBott. Mrs. Galloway and her two sons made the trip with Dr. Galloway.

Dr. R. W. Hall expects to spend the month of August in Denver, Colorado.

The Central Medical Society held its regular meeting on July 20. Dr. Ross, President of the State Association, was present.

Dr. G. W. F. Rembert expects to leave in a few days to spend three or four weeks in the East at post-graduate work.

Drs. Neal, McDill, Dobson, and Smithson spent July the fourth and the next few days on the Gulf coast.

Dr. B. A. Shepherd, 71 years of age, died at his home in Lexington, Mississippi, March 24, 1926, of pneumonia. Dr. Shepherd was a member of the Holmes County Medical Society and Mississippi State Medical Association and member of the Southern Medical Association. He was county physician of Holmes county for thirty years and was a member of the State Board of Health during the administration of Gov. Noel.

Holmes County now has an all-time Health Unit with Dr. Blackwelder as county health officer and Miss Inez Breland nurse.

Dr. A. M. Doty is away till October for his health on the Pacific coast.

The Holmes County Medical Society will join with the Central Medical Society within the near future if arrangements can be made to that effect.

Clarke County has secured a Health Unit. Dr. J. T. Googe, of Booneville, formerly with United States Public Health Service, is in charge. Miss Williamson is assisting as public health nurse.

Dr. B. F. Hand, Quitman, is spending a month in Long View, Washington.

Newton, Neshoba, Winston Tri-County Medical Society recently met at Newton, Mississippi. Drs. Dudley Stenice, T. E. Jarvise, and W. G. Gill were hosts at a luncheon to the Society. The following papers were read:

"Empyema"—Dr. W. G. Gill.

"X-ray for the Country Doctor"—Dr. J. S. Hickman.

A committee of eight members from the Lauderdale Medical Society was present to invite the Newton, Neshoba, Winston Tri-County Medical former Society and the organization to be chartered under the name of Meridian Medical Society.

Dr. R. D. Session, Natchez, Mississippi, is visiting Johns Hopkins and other clinics this month. He is accompanied by his wife and son.

There were more responses to the Editor's reminders this month but there are still fewer than 25% of responses. Let us hope that next month we shall see still more interest being taken in this column.

CORRECTION.

In the July issue of this Journal it was stated that at the meeting of the Central Medical Society, June 15, the paper on the "Cause and Treatment of Epistaxis" was presented by T. E. Ross, of Jackson. This should read: Dr. Ross E. Anderson.

The Editor makes due apologies for this error.

TREATMENT OF IDIOPATHIC PURPURA HEMORRHAGICA.

The treatment advocated by J. W. Sooy and Theodore S. Moise, New Haven, Conn. (Journal A. M. A., July 10, 1926), for idiopathic purpura hemorrhagica is said to be entirely symptomatic in nature, with chief emphasis placed on checking the hemorrhage and replacing the lost platelets. Ten cases have been treated. In two instances, the treatment was used as a method for the preoperative preparation of patients in need of surgical attention; in one instance, for the extraction of several teeth in a woman who had

bled profusely for three days after a recent tooth extraction, and in a second patient with a marked hemorrhagic diathesis, on whom a tonsillectomy was indicated. These procedures were followed by a normal convalescence free from bleeding. The method of treatment in these cases has been as follows: On the first day the patient was given two exposures of six minutes each, at a distance of 13 inches, on the entire dorsal and ventral surfaces of the body. The exposures were increased daily by three minutes for five days, after which the exposure may be increased in daily increments of ten minutes. It is rarely necessary to increase the exposure beyond twenty-eight minutes. This procedure gives a massive exposure and may produce a somewhat painful hyperemia. In such cases, the treatment is omitted on the following day. No serious burns have been observed. One case is reported in detail to illustrate the effect of this treatment on the disease. When the patient was first seen, June 4, 1925, the platelet count was 108,000 per cubic millimeter. She was given five daily exposures to the mercury vapor quartz lamp. On the fifth day, the platelet count was 242,000 per cubic millimeter. On account of a severe cold, the patient did not appear for treatments until five days later. At this time, the platelet count had fallen to 152,000, and there was slight epistaxis. Daily treatments were commenced, and after twelve days (June 25) the platelet count had risen to 546,000 per cubic millimeter. The treatments were discontinued about eight months ago, and there have been no further evidences of the disease. The blood platelet count has been maintained at the normal level.

INTERESTING RESULTS FROM USE OF PARATHYROID EXTRACT IN CASE OF OSTEITIS DEFORMANS (PAGET'S DISEASE).

Suggested by the work of Collip on parathyroidectomized dogs in which the administration of extracts of parathyroid glands raised the calcium content of the blood, this substance was employed by Anthony Bassler, New York (Journal A. M. A., July 10, 1926), in a case of osteitis deformans with a happy result. In this case of steadily progressing Paget's disease no treatment was of any value up to the moment the parathyroid was started. Within a short time after its use was established a most marked change for the better occurred. The dose of parathyroid was 1/10 grain (0.006 Gm.) after each meal.

BOOK REVIEWS

The Clinical Interpretation of the Wassermann Reaction: By Robert A. Kilduffe, A. B., A. M., M. D. Philadelphia and New York, Lea & Febiger. 1926.

It is very generally appreciated by practitioners of medicine that their acquaintance with the Wassermann reaction is limited to the report from the laboratory of positive or negative. Too often the report is considered as the last word in the diagnosis of syphilis. It is accepted as the *deus ex machina* to solve diagnostic difficulties rather than an obiter dictum. The purpose of this book is to aid in doing away with this acceptance of dogma, to elucidate the every day problems and "to furnish in accessible form such succinct information as is necessary for the proper clinical application of the test and the interpretation of its results." How well this is done may be judged from quoting a few of the chapter heads. The basic principles; anticomplimentary reactions; the reaction in primary, secondary, and tertiary, and latent syphilis; the reaction in diseases other than syphilis; false negative reactions, provocative reactions; the reactions in relation to the cure of the disease; the "face-value" of the reaction, are headings which indicate the scope of the book. Under these titles the subject matter is discussed fully and completely, so that it may be understood by practitioners of medicine. This latter point deserves to be accentuated. The book is *not* written for serologists nor for syphilographers.

One criticism may be made of the work, which is written with ease and with a facile pen. It is too modest and unassuming. The very extensive experience of Kilduffe, his researches and his critical knowledge of the Wassermann reaction entitle him to speak with first hand knowledge, and to write positively. On the contrary, the casual reader apparently will get the impression that the book is a compilation of the work of others. Only occasionally does the author mention his own studies. He is too keen a student, has written too widely and studied too deeply not to be recognized, through undue modesty, as one of the great authorities on his subject in this country, in every way qualified to prepare such a monograph.

J. H. MUSSER, M. D.

Thomas Sydenham, Clinician: By David Riesman, M. D. New York, Paul B. Hoeber. 1926.

This small attractive volume, another Hoeber medico-historical publication, is a rather encyclopedic account of the master clinician's life and achievements, facts which should be common

knowledge, but unfortunately are not. The title page of the first English edition of Sydenham's works and a complete bibliography lend added interest to the book.

M. MALLOWITZ.

Potter's Compend of Materia Medica, Therapeutics and Prescription Writing. With Special Reference to the Physiological Action of Drugs. Based on the Tenth Revision of the U. S. Pharmacopoeia, Including also Many Unofficial Remedies: By A. D. Bush, B. S., M. D. Ninth edition, revised. Philadelphia, P. Blakiston's Son & Co. 1926.

Dr. Potter's handy little compendium has been brought up to date and now conforms to the tenth revision of the United States Pharmacopoeia. New articles on important drugs have been inserted, and several articles have been rewritten. Obsolete and comparatively unimportant material has been removed and the new edition now presents in brief form the best pharmacologic and therapeutic practice and information. It will continue to serve the purpose for which it was originally written, to aid the busy student and practitioner by furnishing a concise resumé of the relatively more important data bearing on the subject of materia medica.

FRANCIS M. MUNSON, M. D.

Blood Chemistry Colorimetric Methods. For the General Practitioner, with Clinical Comments and Dietary Suggestions: By Willard J. Stone, B.Sc., M. D. Introduction by George Dock, M. D. Second edition, revised. Illustrations. New York, Paul B. Hoeber. 1926.

The fact that a second edition of this book is published only three years after the appearance of the first would indicate that it has proved useful to certain classes of workers. The first eighty-four pages are taken up with directions for the determination of non-protein nitrogen, urea, uric acid, creatinine, creatine, blood sugar chlorides and cholesterol.

The technique recommended in most cases is that of Folin and Wu although methods of other workers are also included. The laboratory directions are clear and well arranged, and in each case are followed by a discussion of the interpretation of the results of the test described, and a brief but up to date bibliography. It is to be regretted that the author has seen fit to omit a description of Van Slykes' universally used method for the

determination of the alkali reserve, as well as any theoretical discussion of acid base equilibrium.

Chapter X, entitled "The Dietary Control of Disturbances of Metabolism" would appear rather superfluous in a publication of this type.

The reviewer finds it difficult to decide why the author should feel that directions for the preparation of bran muffins, and discussions of the best methods of insulin dosage and of the anaesthetic to be used in surgical operations on diabetics should be included in a work bearing the title "Blood Chemistry."

W. DENIS.

Lectures on Nutrition. A Series of Lectures Given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa and Washington (St. Louis): The Mayo Foundation for Medical Education and Research, 1924-1925. Philadelphia, W. B. Saunders Company. 1925.

The contents of this volume includes the following lectures: The Measurement and Significance of Basal Metabolism, by Francis Gano Benedict; Problems of Metabolism, by Graham Lusk; The Proportions in which Protein, Fat, and Carbohydrate are Metabolized in Disease, by Eugene Floyd DuBois; Muscular Activity and Carbohydrate Metabolism, by Archibald Vivian Hill; Our Present Knowledge of the Vitamins, by Elmer Verner McCollum; and The Relations between Fertility and Nutrition, by Herbert McLean Evans. To the reviewer it is not exactly plain to whom the lectures in this book are addressed. The introduction states that they will prove of "interest to the public," but with one or two exceptions unless the reading public has a very lively and timely knowledge of biochemistry, the lectures would convey but very little information that would be of value. There is one unfortunate fact that stands out about the book. It would seem that with two exceptions all the lectures could be read by the average medical man with a great deal of benefit, as facts are brought out and presented so clearly and so free from abstruse terminology that the book is easy to read and may be followed through with a close understanding. On the other hand, two of the lectures are very technical and probably could not be followed satisfactorily by a reader who is not conversant with the more specialized phases of the problems of nutrition.

The Mayo Foundation for Medical Education and Research is to be congratulated upon getting together such a splendid group of authorities to present the subject of nutrition in many of its

manifestations in such a manner as is exemplified by the several essays.

J. H. MUSSER, M. D.

Man: His Making and Unmaking. By E. Boyd Barrett, M. A., Ph. D. New York, Thomas Seltzer. 1925.

"All the psychology that most of us are likely to understand is mainly applied common sense. It can be acquired by a careful study of oneself and a sympathetic observation of other people in the light of what that study has revealed about human nature and behavior" (Pym).

Doctor Barrett's book is applied common sense. It is chiefly interesting as the position of an orthodox Roman Catholic and the reactions of modern psychology on the historic faith. The learned professor gives an admirable criticism of the extreme determinists and a vindication of free moral responsibility. The man in the street can get from this book very practical suggestions on mental control. The work contains a wealth of illustrations from the author's laboratory experience. It is neither complete nor profound but is plain and admirable in its criticism of the extreme Freudian and behavioristic schools of psychology. No mention or definition is made of the primary instincts, except the sex instinct. The use of terms frequently is not clear to the lay reader. Libido is used without a clear explanation for the non-technical reader. The process of sublimation is not clearly stated. Sometimes soul is used with its orthodox religious meaning, sometimes as a synonym of the mental process and again as the elan vital. He naively accepts thought transference as an established fact on no more stable or convincing basis than the dictum of the Society for Psychical Research.

FRANCIS M. MUNSON, M. D.

Diseases of the New-Born. A Monographic Handbook: By John A. Foote, M. D., and Collaborators. Philadelphia, J. B. Lippincott Co. 1926.

This book is very attractively gotten up, being printed on heavy gloss paper and well illustrated. It comprises a volume of some 230 pages and there are references at the end of each chapter. The text itself is rather sketchy and brief and could have been increased in value were prescriptions given instead of such advice as the application of bland ointments, light dusting powders and stimulating lotions.

There are many procedures outlined in the chapter on Diagnostic and Therapeutic Measures which are of value and some with which the reviewer must take exception, such as the injection of blood into the superior longitudinal sinus.

The chapter on Habit Formation in the New-Born gives much valuable advice to doting parents on the training of their babies in order to make extinct that worst pest of civilization: the spoilt child.

L. VON MEYSENBUG, M. D.

Psychotherapy. (Harvard Health Talks.) Mental Elements in the Treatment of Disease: By Edward Wyllys Taylor. James Jackson Putnam, Professor of Neurology in Harvard University. Cambridge, Harvard University Press. 1926.

This compact little volume is a professional plea for a scientific and rational consideration by the medical profession of the later investigations in psychology, of the importance of psychoanalysis in therapy, and of a sound course in mental therapy in pre-medical and medical courses. It embodies a brief but engaging review of mental healing from the days of miracles, through the periods of mysticism and charlatanism, Mesmer and hypnotism to the clinical era beginning with Charcot and Janet to the modern analytical methods of Freud and Jung.

Its value is in the reserved, scientific plan and can be recommended for an hour's reading to physicians who have not paid attention to the advances in scientific psychotherapy since we have settled on certain fairly definite laws of mental reactions. A large amount of good psychology is packed in the last fifteen pages.

"* * * The tendency, which has been so marked a feature of medical practice up to this time, to ignore the personality of the patient in the attempt to treat his disease must give place to the broader conception that the physician's duty is to study the reactions of the patient to his disorder with the same painstaking care that he studies the physical conditions of disease. It has been said with considerable justice that medicine has hitherto been concerned with organs, rather than with persons. The time has certainly come, and our knowledge, imperfect as it is, is sufficient to accept the broader implications of treatment which a rational psychotherapy permits. Again I emphasize the word "rational," since we have finally attained knowledge in this difficult but most important field of research, which every well-trained physician must in some degree master, if, as he should, he sets himself the task of treating disease by all legitimate methods.

FRANCIS M. MUNSON, M. D.

Our Present Knowledge of Heredity: A Series of Lectures Given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis). 1923-1924. Illustrated. Philadelphia and London. W. B. Saunders Company. 1925.

The reviewer has nowhere found so much authoritative material on this important subject in so small a compass. The names of the contributors is an indication of the value of the work.

Professor Wm. E. Castle, of Harvard presents the general problem and historical setting in a succinct statement of the recognized factors of heredity. Professor Clarence E. McClung, of the University of Pennsylvania, discusses heredity of sex in a carefully balanced lecture, replete with careful observations on the predominant theories of sex differentiation and method of reproduction. The mooted question of the inheritance of acquired characters is handled by Professor John A. Detlefsen of the Wistar Institute of Anatomy and Biology of the University of Pennsylvania. He carefully balances the Weismanian and Lamarckian theories on the inheritance of somatic modifications. He believes that no group of experiments has been carried far enough to convince an impartial biologist that somatic induction is possible. The original contribution of the volume is by Maud Slye, Assistant Professor of Pathology in the University of Chicago. It treats of heredity in relation to cancer. The lecture gives the result of carefully protected experiments for more than twelve years on mice of known ancestry for many generations of selected stock. Some of the charts show fourteen generations absolutely following out the Mendelian law. Her conclusions are as follows: "Inherited predisposition is the basic essential in determining the appearance of cancer." The resistance to cancer appears like a characteristic Mendelian dominant; the susceptibility to cancer is a Medelian recessive. Professor Wells of the University of Chicago reviews all the important experiments from Loeb to Maud Slye on the influence of heredity on the occurrence of cancer. He discounts all mass statistics, from Pearson down, on the transmissibility of human cancer but gives high importance to the mice experiments which show that induced or "grafted" tumors are not inheritable but that spontaneous cancers carry the strain of tendency to the exact place of appearance in a late age. The inheritance of spontaneous tumors in animals seems comparatively certain; our human evidence is inadequate but if the Mendelian law is valid it must rule *over all*

life. The final lecture, on eugenics, is by Professor Michael F. Guyer of the University of Wisconsin. He gives a concise summary of the popular aspects of the science by up-to-date social and psychological statistics.

FRANCIS M. MUNSON, M. D.,

Applied Bio Chemistry, by Withrow Morse, Ph.D., Philadelphia and London, W. B. Saunders Co., 1925.

In this extremely voluminous and extensively illustrated work the author, has according to his statements contained in the preface "written with a view of weaving the woof of bio chemistry into the warp of medicine."

It cannot be denied that this book is built along novel lines; apparently the author is of the opinion that practically all branches of chemistry and of medicine may be included under the heading of bio chemistry, thus Chapter I contains a discussion of the electrical theory of matter, Chapter XIV includes a description of Frohlich syndrome, while on page 398 there appears an illustration of the technique of lumbar puncture.

The book contains the usual chapters on the chemistry of the fats carbohydrates and proteins, on digestion, metabolism, urine, blood, etc.

A novel and to the reviewer's mind distinctly undesirable innovation consists in the use of a system of nomenclature of biochemical substances adopted some years ago by the International Union of pure and applied chemistry. In view of the fact that this system has not as yet been adopted by the American Society of Biological Chemists, or by the American Medical Association, its use in a text book would appear somewhat premature.

Interspersed between the discussion of points of theoretical interest are descriptions of laboratory experiments designed to illustrate the chemistry of biological products, and of analytical methods for the analysis of blood, urine, etc., all written with great elaboration, so that it may truthfully be said that the author leaves nothing to the imagination of the reader; see for example

the directions for breaking an egg (page 415) "strike the equator of an egg with a sharp instrument. Into the crack thus formed insert a thumb on each side and carefully open the egg. By transferring the yolk from one half-shell to the other let the white drain into a receptacle."

Many references to the original literature are given in footnotes and in the bibliographies which appear at the end of about every chapter.

In conclusion it may be said that this volume contains an immense amount of information on every phase of bio chemistry, together with a review of many recent investigations, and should be of value to the physician who desires to obtain information regarding modern developments in the science.

W. DENIS.

PUBLICATIONS RECEIVED.

Lea & Febiger, Philadelphia and New York: "Roentgen Interpretation," by George W. Holmes, M. D. and Howard E. Ruggles, M. D. 3rd ed. rev.

J. B. Bailliere & Fils, Paris: "La Grippe," by Pierre Lereboullet, M. D.

Williams & Wilkins Co., Baltimore: "Pernicious Anemia," by Frank A. Evans, M. D. "Hydrogen In Concentration of the Blood in Health and Disease," by J. Harold Austin and Glenn E. Cullen.

Paul B. Hoeber, New York: "Rational Gland Therapy for Women," by I. Wanless Dickson, M. B., F. R. C. S. "The Peaks of Medical History," by Charles L. Dana, A. M., M. D., LL.D.

F. A. Davis Co., Philadelphia: "Hay-fever and Asthma," by Ray M. Balyeat, A. M., M. D.

E. P. Dutton Co., New York: "Birth Control and the State," by C. P. Blacker, M. C., M. A., M. R. C. S., L. R. C. P.

REPRINTS.

"Formulae for New Culture Media," by M. J. Scott, M. D., F. A. C. S. "Intradural Complications of Aural and Nasal Origin," by Wells P. Eagleton, M. D. "The Purulent Inflammation of Basal Sinuses and Meningeal Cisterna," by Wells P. Eagleton, M. D. "Eye Clinics of India," by Derrick T. Vail, Sr., M. D.

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No. 3

ELECTROTHERMIC METHODS IN THE TREATMENT OF MALIGNANCY.*

GRANT E. WARD, M. D.,

[*From the Howard A. Kelly Hospital,
Incorporated*]

BALTIMORE.

During the last 15 years, the successful treatment of cancer has been greatly facilitated by improvements in our physical methods, namely, radium, Roentgen ray, and the high frequency current. The chief therapeutic value of this last mentioned agent is due to heat, although a still unknown factor seems to be present. General surgeons have paid no little attention to heat in the treatment of cancer as a potent factor in destroying neoplastic cells without serious damage to surrounding healthy tissue and without a slowly healing indolent sclerotic ulceration, although it has not been universally accepted and used. The usual form of applying heat has been by means of hot objects. In this new method the heat is developed within the tissues as contrasted to the older methods such as the cautery.

Electrothermic methods include surgical diathermy, fulguration, endothermy, electro-desiccation, electro-coagulation, radio-knife, acusector, and several other allied forms. For the sake of brevity and clearness I will use the three terms electro-

desiccation, electro-coagulation, and acusection.

Electro-desiccation, so named by Clark, is the dehydration of tissue due to the heat developed by the passage of a monopolar high frequency electric current. Electro-coagulation of Doyen is actual coagulation of tissue proteins caused by an intensely high heat generated by the passage of a bipolar high frequency electric current. In both desiccation and coagulation, the currents I employ are composed of damped oscillations of a frequency of about 1,250,000, and a wave length of about 240 meters, with a strength of 30,000 volts, and from 300 to 1500 milliamperes. In extensive coagulation, stronger currents may be used if desired.

Acusection (cutting with a needle) is a term applied by Dr. Howard A. Kelly to the endotherm knife of Wyeth. This instrument has been unwisely termed the radio-knife because the current is produced by passing a high frequency bipolar current through three electrode vacuum tubes (radio-tubes). The current here is of a higher frequency (1,500,000) than that of coagulation or desiccation. The oscillations are of equal amplitude, it therefore being an undamped current. It has been shown experimentally that this current produces a molecular disintegration of the large protein molecules. This is accomplished by the continued bombardment of these molecules by equal oscillations. This smoother current than that of desiccation or coagulation produces very little heat.

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Fig. 1—Benign mole excised with endotherm knife; a. Zone of molecular disintegration; b. Zone of coagulation inside a; a and b measure together 0.1 mm.

HISTOLOGY.

I have had the pleasure of confirming microscopically the work of Drs. William L. Clark and E. J. Asnis of Philadelphia. The process in desiccation is, as the name implies, one of drying. The heat is not sufficient to cause marked changes in the cell structure so much as in the water content. The tumor cells are actually dried out. They are shrivelled and elongated with drawn out nuclei, but their cells characteristics are still discernible. The connective tissue stroma is also contracted and shrunken.

The current used in electro-coagulation has a higher amperage, giving a hotter, and more penetrating current. The effect is most marked in the epitheloid cells which are more sensitive to the action of heat. They lose their structure and present under the microscope a homogeneous granular debris. With the usual amount of coagulation, sufficient to remove a tumor, the stroma cells retain to a greater or lesser degree outlines of their cellular structure; but here the changes are more marked than those found after dessication, and

hyalinization is common. If the current is applied for a longer time, complete coagulation of all tissue, stroma as well as cancer cells, will be observed. The blood vessels are filled with clotted blood and their walls are coagulated thus accounting for the lack of bleeding.

The acusector severs tissue almost as quickly as the knife, leaving a faintly brownish seared appearance to the cut surface of the skin and muscle but no visible effect in the fat. On microscopical examination, one sees at the edge of the wound a faint line of carbonization behind which there is a thin zone of desiccated and coagulated tissue. The depth of penetration of this current, as seen under the microscope is one-tenth of a millimeter. With so little destruction of tissue, primary union is the rule.

TECHNIC.

The essential features of success in the use of electro-thermic method, are, first, a thorough foundation in surgical training, second, an accurate judgment as to the extent of the disease, and a thorough knowledge of the current being used and the extent of the after slough with the chosen current. These criteria are attained only by practice.

In using the bipolar currents for coagulation and acusection 2 electrodes are necessary. The inactive electrode is made of a piece of sheet metal or heavy wire mesh of a convenient size (8 by 12 inches) covered with asbestos and linen. This is covered with a small pillow case, moistened, and placed beneath the buttocks or shoulder of the patient. If one is operating with the patient in the knee-chest or perineal postures, as in treating bladder, rectal or cervical disease, a belt electrode may be strapped to the thigh or other convenient parts of the body. A convenient type of inactive electrode is one made of two pieces of felt covered with porous nickle-plated metal which can be strapped to the thigh or abdomen.

The active electrodes are made in many forms suitable for application of the current to any accessible portion of the body. Two general types are employed. The flat, or blunt electrodes, as first advocated by Doyen, and later employed by many men in this country, notably Corbus, O'Connor, and Kolischer, are made in the forms of various sized flat discs. In treating disease in cavities as the cervix and rectum, spherical and olivoid electrodes may be used. The sharp or needle electrodes is the one which I constantly use, feeling that it is under more accurate control than the others. One can always see the effect on tissue, can treat the minutest areas, or by moving the needle from place to place, large massive growths. In the latter deeper penetration may be obtained because the needle can be plunged to any desired depth.

For superficial skin lesions, an ordinary cambric needle is held in a suitable handle, provided with thumb-switch for quickly making and breaking the current. In treating malignant disease of the oral cavity, cervix or rectum, one uses straight electrodes, with as little metal exposed as possible. The length of the needle can be varied as desired. Long, carefully insulated, thin needles are used in treating bladder tumors through a metal, or, preferably, a hard rubber, open-air Kelly cystoscope. A tonsil snare is very handy in removing papillomatous growths of the bladder through a suprapubic incision, or similar tumors of the rectum through a proctoscope. The snare is thrown around the pedicle and the current run down it by contact of its metal handle to the active electrode. As the snare is drawn through the pedicle, the current coagulates the tissue. The tumor then drops off, leaving a white, dry, coagulated surface.

In treating accessible malignancy by electrothermic methods it is always advisable to *circumvallate* the growth with a line of coagulation. This is done by inserting the

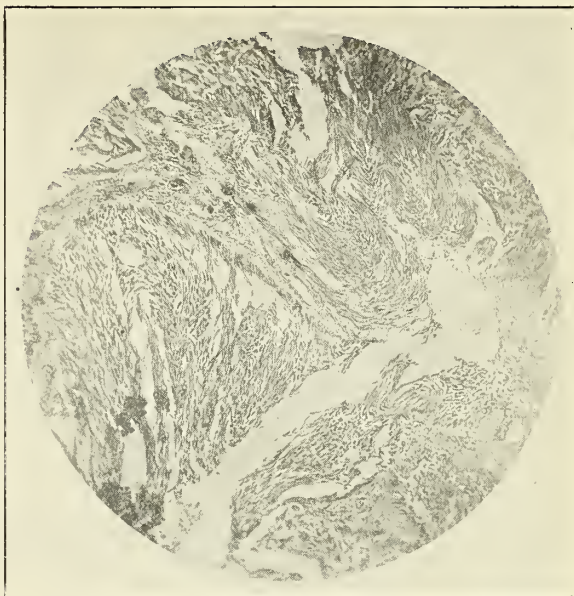


Fig. 2. Basal cell epithelioma of nose after desiccation: The cancer cells are shriveled and elongated, but retain their nuclei and cell walls.

needle in the healthy tissue just outside the disease. After the current has caused a white zone of coagulation around the needle, the latter is moved to an adjacent area, and so on until blood and lymph drainage, from the affected part, has been cut off. Wherever possible, especially in the tongue, the needle should be inserted beneath the tumor so as to cut off the circulation from below. When complete hemostasis of the tumor has been obtained, it takes on a purplish color. One may then safely remove tissue for diagnosis after which the entire disease is coagulated and removed as a mass of dead tissue. The removal can be accomplished by scissors, scalpel, curet, or acusector. I prefer the latter as it does not require exchange of instruments, and consequent delay in time. Frequently a wire loop may be used in place of a straight needle. With this loop carrying the acusection current, one can quickly curet away the dead tissue. After reaching the extent of the coagulated area, one can repeat the process as many times as necessary to remove all the growth being sure to leave a dry surface.

Some surgeons prefer to leave the coagulated tissue to come away as a secondary

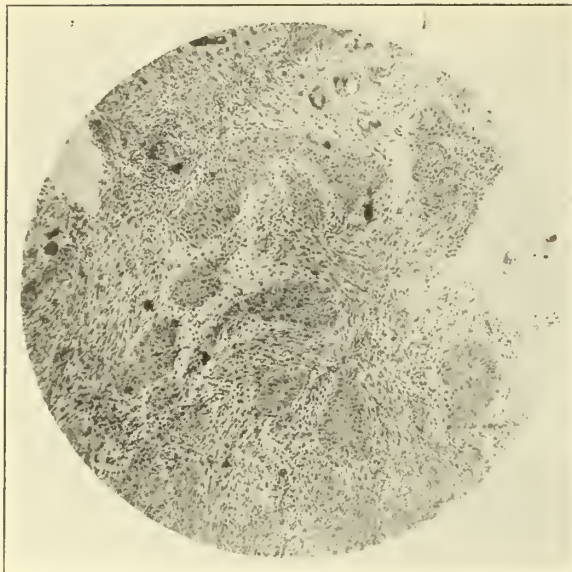


Fig. 3—Squamous cell carcinoma of face before treatment.

slough. This gives a great risk of infection, and I therefore prefer to remove as much slough as possible at the operation. The wound is then dressed with an antiseptic ointment or hypochlorite solution, and treated as a septic one until healthy granulations have developed, when skin grafting may be done.

Repeated attempts to manufacture a needle to which coagulated tissues will not adhere, have thus far been futile, and the needles continue to become gummed with the destroyed growth, requiring frequent cleaning. Ordinary gauze and cotton sponges are much too soft to wipe the needle clean. Formerly, I used steel wool in the form of small sponges. This sufficed quickly to clean the needle but small fragments broke off into the wound, especially dangerous in abdominal and breast operations. I now satisfactorily employ a steel sponge of the type used in cleaning kitchen utensils. These sponges are made by weaving strong steel threads, with sharp cutting edges, in such a manner that pieces will not break off into the operative field.

HEMOSTASIS.

Hemostasis is a constant problem in any operative work and any new and quick method for permanent control of bleeding

is always acceptable. In the *Med. Jr. and Rec.* for April 15, 1925, I published a new method for hemostasis without suture. The technic is simple, time saving, and readily applicable in abdominal incisions, breast amputations, and in removing surface growths. The large vessels not sealed with the acusector are caught with the usual hemostatic clamps. At a suitable time during the operation when permanent hemostasis is desired, one by one the clamps are grasped with the operator's left hand and touched with the active electrode held in his right and carrying a fairly strong coagulating (damped) current. The contact is maintained until a thin zone of white coagulation appears around the tip of the clamp, when the current is cut off and the clamp released. Complete hemostasis results. This method has three distinct advantages: (1) Great saving of time, taking about one-third as long as to tie it and cut the ligature. (2) Less foreign material is left in the wound than when using ligatures. The amount of coagulated tissue around the vessel is easily absorbed. (3) Marked saving in ligature material.

VARIATION OF ACUSECTOR CURRENT TO SUIT THE TYPE OF TISSUE BEING CUT.

A great asset to the use of the Endotherm knife (Acusector) is the flexibility of the current employed. The variation of current is accomplished by any one of three ways or a combination of any two or all three of them: (1) Reduction in the current running through the filaments of the three electrode vacuum tubes, which lowers the temperature of the tubes and cuts down the current flowing through their grid circuits with a corresponding decrease in the current flowing through the acusector. (2) If the grid circuit and transformer circuit are thrown out of tune by adjusting the variocoupler, an effect similar to (1) is obtained. (3) By changing the rheostat resistance in the main acusector current, the cutting current may be easily decreased or increased.

These alterations in current permit of any range of operation from the powerful ones quickly cutting through deep layers of fat as in opening the abdomen or amputating the malignant breast to smaller currents used in performing pan-hysterectomies, intestinal anastomoses, opening gall bladders, or delicately dissecting between adjacent loops of bowel without injury to the intestinal wall.

ANAESTHESIA.

In large tumors a general anaesthetic, such as gas or ether, is preferable. If ether is used it must be removed from the room before the current is turned on, particularly when operated about the head and neck. If this precaution is observed carefully there is no danger of explosion. The hypodermic administration of scopomalin, 1/150 of a grain, morphine, 1/4 of a grain, and atropin, 1/150 of a grain, prior to anaesthesia, greatly lessens the amount of anaesthetic necessary. Some patients may be narcotized by a little heavier dose of these drugs, or they may be given prior to the use of local anaesthesia, with great assistance. Small epitheliomas and benign growths can be efficiently treated under

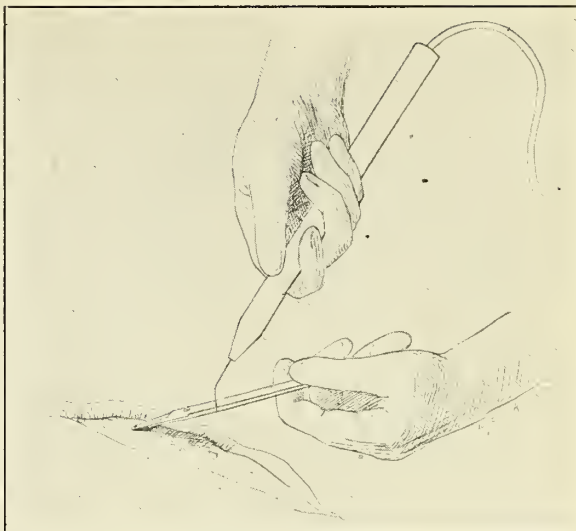


Fig. 5—Shows method of hemostasis without suture. The clamp grasping the vessel is held in one hand so that no portion of the clamp, except the tip, touches the patient. The active electrode carrying the coagulation current is then applied to the clamp and allowed to remain until there is a line of coagulation to the tip of the clamp.

1 or 2% solution of procain. In the oral cavity and tongue, the operation may be successfully performed after efficient nerve blocking.

THE CAUTERY VS. ELECTROTHERMIC METHODS.

As has been repeatedly pointed out by Clark and others, the extensive charring, or carbonization, caused by the cautery, actually forms a barrier to the further penetration of the heat applied. With desiccation and coagulation there should be no carbonization unless there is free bleeding. The tissues are converted into a white coagulum from which the water boils out. As stated above, the heat is not applied from without as with the cautery, but is generated within the tissues by the passage of high frequency current. We can easily see then how much more penetrating is the effect of electrothermic method as compared with the actual "hot" cautery. The active electrode of the former is cold, all the heat arising in the tissues.

ELECTROTHERMIC METHODS AND RADIATION.

At the Howard A. Kelly Hospital radium has been used with great success in the treatment of all types of accessible malignancy. Following heavy irradiation, par-

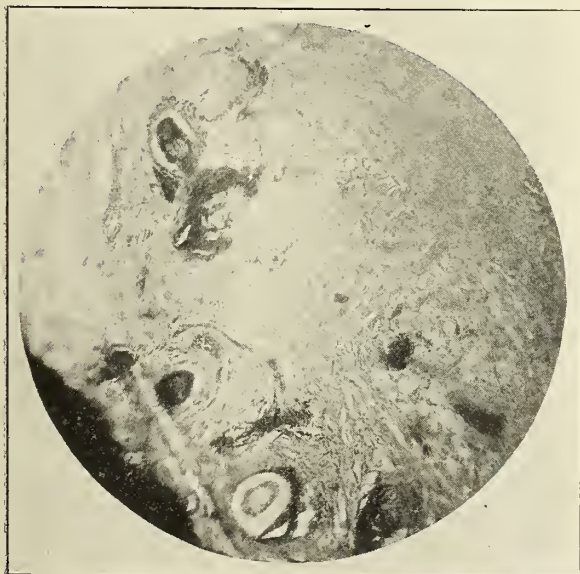


Fig. 4—Same area as in Fig. 3 after coagulation. The groups of epithelial cells have been converted into masses of homogeneous cell debris. The stroma cells appear as lifeless hyalinized tissue.

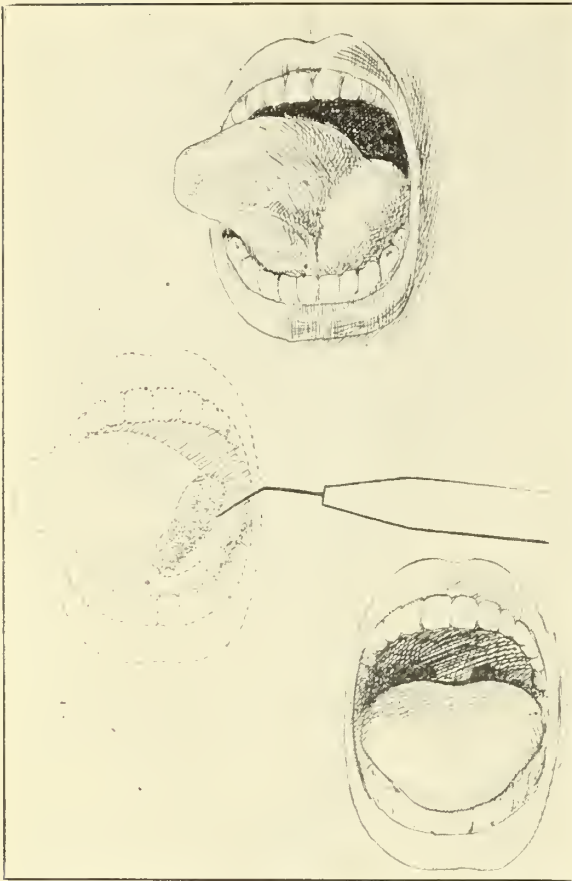


Fig. 6—Illustrates a Ranula which was inserted under local anaesthesia and the epithelial lining desiccated. Middle picture). The end result was perfect.

ticularly when several treatments have been applied over a considerable period of time, a slowly healing, indolent, painful ulceration results. This is particularly true in in the oral cavity where infection abounds. In a series of cases, I have combined heavy irradiation with electrothermic removal. In these the heat produced tends to counteract the formation of dense hyalinized scar tissue, and stimulates development of healthy granulation. This markedly reduces the post-radiation pain and permits of early plastic operation.

It is a little difficult to say whether a given case should be radiated before or after operation, but the writer's experience seems to indicate that the radiation should be done first. This may be accomplished by direct application of radium or the implantation of emanation seeds or radium needles. If direct application is used with

careful protection of the surrounding normal structures, one is able to give a much larger dose than ordinarily without slowly healing painful scars because of the electrothermic operation which is performed a few days after the radiation. The combination of these 2 methods of physical therapy, gives the patient a dual chance of cure. Heavy external radiation, with radium or deep therapy X-ray, over the gland areas draining the affected part, adds to the likelihood of cure.

CLINICAL STUDIES.

Benign minor lesions of the skin, as keratoses, moles, warts, corns, callosities, and small epitheliomas, yield readily to electro-desiccation. The strength of the current should, of course, vary with the size of the growth, but usually, with the smaller lesions, it is quite mild, whereas the larger ones require a heavier voltage and amperage. A good criterion of sufficient treatment is to leave the needle in the lesion until the spark resembling a flame has

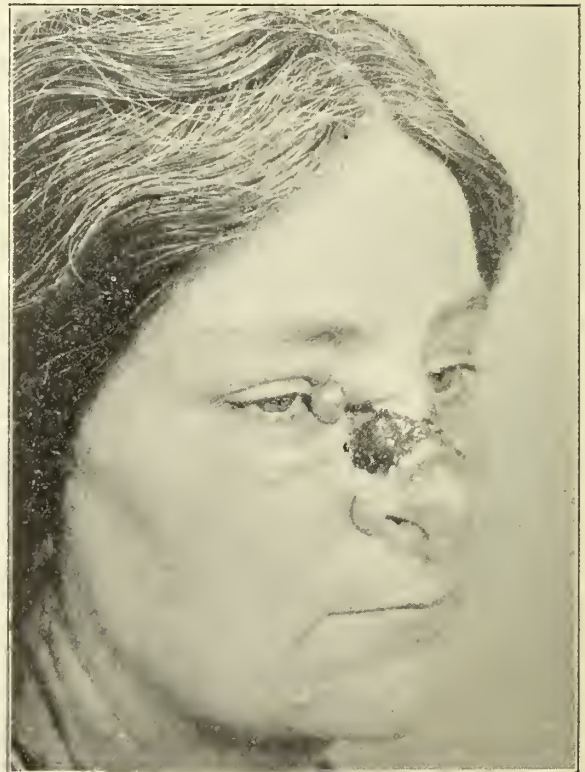


Fig. 7—Epithelioma, which had eroded the bridge of the nose and involved the inner canthus of right eye, before treatment.

penetrated throughout it, thus literally lighting up the tissue, and continue the application until the entire growth becomes whitened. In larger benign tumors the needle is moved from place to place until the diseased area is thoroughly treated. One must constantly guard against over-treatment as destruction goes well beyond the area of visible change. This is particularly true in the larger malignant growths in which electro-coagulation is essential. In from 5 to 7 days, the small benign lesions dry up and come away; with the larger ones and small epitheliomas (1.5 cm. in diameter or less), from 1 to 3 weeks is required for complete healing. In this group of cases the percentage of cures with one treatment is very high. Occasionally a second is indicated.

In treating epitheliomas larger than 1.5 cm. in diameter, electro-coagulation is essential. It is to be relied on alone in a number of cases, but in the more advanced the best results are obtained when it is combined with one form of radiation therapy, as noted above. In patients in whom gland metastases have already developed, this is obviously imperative. Here, as in small epitheliomas and benign tumors, the active electrode can be an ordinary needle, although in some situations a specially shaped one is used, particularly when working in a cavity such as the mouth, throat, bladder, vagina and rectum. Whenever possible, the technic of circumvallation as described above, should be followed.

Occasionally, inflammation follows endothermy and varies proportionally to the amount of irritation to the surrounding skin and secondary infection. It is to be remembered, of course, that with the high frequency current, producing heat sufficient to coagulate tissue proteins, sterilization is accomplished. However, with a sloughing wound, secondary infection is a complication to be guarded against at all times. It is combatted as in the case of any other septic wound. In the mouth the problem



Fig. 8.—The same as Fig. 7 ten months after radium and coagulation. Microscopical examination of tissue taken recently shows no growth. Prosthesis has been made to replace the defect. (Not illustrated.)

is a different one. Infection can not be avoided, pain sometimes occurs as a result, and secondary hemorrhage from the sloughing of a large vessel wall is occasionally seen. This is guarded against by the topical application of hypochlorite solution 2 or 3 times a day, which keeps the slough firm. If the wounds of the skin are kept aseptic, there is very little pain.

I carried out an interesting experiment a few weeks ago at a breast operation. The primary lesion was a large sloughing one. The skin around it was prepared by the usual ether-alcohol and iodine technic, and the ulcerated area covered with a thin layer of collodion. The patient was then draped for the operation. Before making the incision, the entire area covered by the collodion was thoroughly coagulated to a depth of a centimeter. Cultures had been taken previous to the application of the collodion, and after the operation a piece of the coagulated tumor was cultured. It was sterile as compared with an abundant



Fig. 9—Squamous cell carcinoma of right temple before treatment. Patient feeble man, 78 years of age.

growth in the pre-operative culture. This patient had a slight amount of post-operative infection in the upper part of the wound which was probably due to organisms in the skin which were not sterilized by the chemical technic. (The skin surrounding the ulcer had been contaminated for some time by the discharges from an open lesion.)

Removal of malignant growths of the tongue and mouth by electro-coagulation can be readily accomplished under local anaesthesia, or nerve block. These operations, however, should be preceded by preliminary ligations of the lingual artery in the neck to prevent post operative hemorrhage. Electro-thermic methods are especially valuable in treatment of lesions of the oral cavity for 2 reasons: (1), the scar is soft and pliable so that large portions of the tongue can be removed with little interference in articulation; (2) there is much less pain post-operatively than after the use of strong doses of radium. As already mentioned, a combination of elec-

tro-thermic methods and radiation also gives a much better scar and much less pain than after heavy radiation alone.

In the treatment of large basal cell and squamous cell carcinomas of the skin, electro-thermic operations should be preceded by heavy radiation, either by the direct application of radon tubes or by the distance method. In 2 or 3 days, after treatment, or, if desired, on the same day, the whole area can be removed with electro-coagulation. The slough comes away in a week or ten days, and healthy granulation develop with little scar tissue so that plastic operations can usually be done in from 2 to 4 weeks after the operation. However, if cartilage or bone has been removed, and reconstructive operations have to be done, as in removals of portions of the nose, a longer lapse of time should be allowed to assure against recurrence.

A very interesting case illustrating several points which I have mentioned is that of a man who came with a squamous epithelioma on his right temple. I first gave him twice the erythema dose of radium at a distance of one inch, over 2 areas which took in the entire wound. The next day, under scopolamin-morphine narcosis and local anaesthesia, I removed the growth with electro-coagulation. The sloughing which occurred exposed a small area of bone. After the slough had cleared away, healthy looking granulations sprang up. Before skin grafting, tissue was taken for microscopical examination which showed islands of tumor cells, some showing the effect of the radiation. In view of the patient's age and general debility, it was deemed advisable to cover the wound with pinch grafts taken from the thigh, and if there was a recurrence to treat with radium rather than further operation. This procedure was carried out and the patient went home in fairly good general condition. Several months have now elapsed and there is no sign of recurrence. This illustrates two points: (1), the value of combining

radiation and electro-thermic methods, and, (2), the fact brought out by Horsley that skin, taken from a distant point and grafted over an area of growth, inhibits the development of or actually destroys cancer cells.

ELECTRO-THERMIC METHODS IN GENERAL SURGERY.

At the Kelly Hospital we have employed the acusector to replace the scalpel in many kinds of operations. The value of the acusector to the general surgeon is still undetermined. Before any conclusion can be drawn, a statistical study of a considerable series of cases must be made. We have performed more than 50 breast operations including removing circumscribed nodules and simple and radical amputations. The type of operation is unessential, the surgeon choosing his usual method of incision and dissection. There is a definite decrease in the capillary oozing and a searing of the lymphatics. The larger vessels are clamped in the usual manner. Great care must be taken in dissecting the axilla, not to injure the axillary vessels. To prevent this a wooden spatula is placed against the vessel. A preferable technic, however, is to employ the Kelly comb to skeletonize the branches of the main vessels, and then doubly clamp them and cut with scissors. The entire operation, including the axillary dissection, has been done with the acusector, and without the use of a single ligature. This case healed per primum with no secondary complications. As a rule, however, it is better to ligate the branches of the axillary vessels, although a great deal of time and ligature material can be saved by coagulating all of the other vessels which have been caught by the usual hemostat. These are then coagulated by the method of hemostasis described above.

Practically all of the various types of pelvic operations have been performed with the acusector. Pan-hysterectomies, myomectomies, salpingo-oophorectomies, and bladder resections can be done with distinctly less capillary bleeding. Of course,

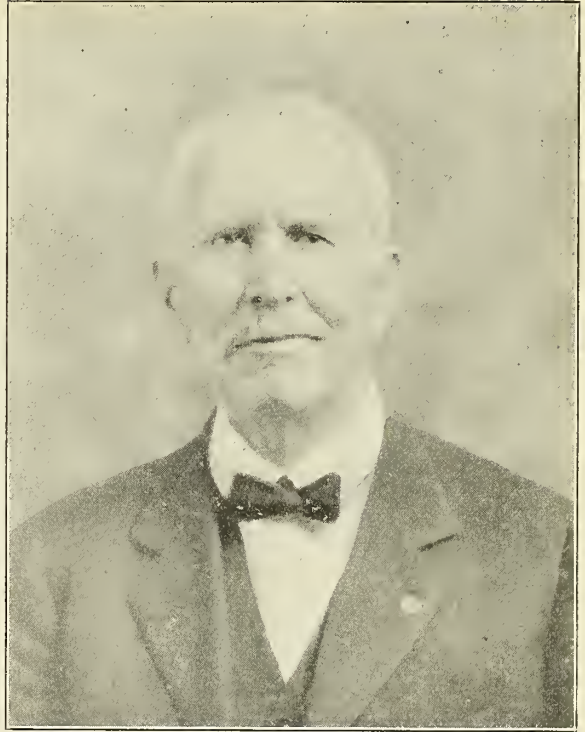


Fig. 10—Same as Fig. 9 six months after treatment which consisted of heavy radiation, removal by coagulation under local anaesthesia and Riverden pinch graft from right thigh. Photo sent by patient.

all of the large vessels are clamped and ligated or transfixed as usual. The advantage over the scalpel is that much more delicate dissection can be done by the use of a very fine cutting current; the acusector obscuring the line of cleavage much less than the wider scalpel. In the resection and anastomosis of the stomach and intestines, the acusector greatly facilitates the operation by stopping much of the capillary oozing. In all of these operations and particularly in the breast work, there is much less handling and traumatism of the tissues. As Dr. Kelly has aptly put it, one actually does a knife and fork operation. This reduces materially the amount of mutilation of tissues with consequent infection.

In a recent communication, I published a new technic for the treatment of ranula which has opened a large field of work. Under local anaesthesia, I incised the cyst with the acusector and then desiccated its epithelial lining. In a short time the thin layer of desiccated tissue came away and

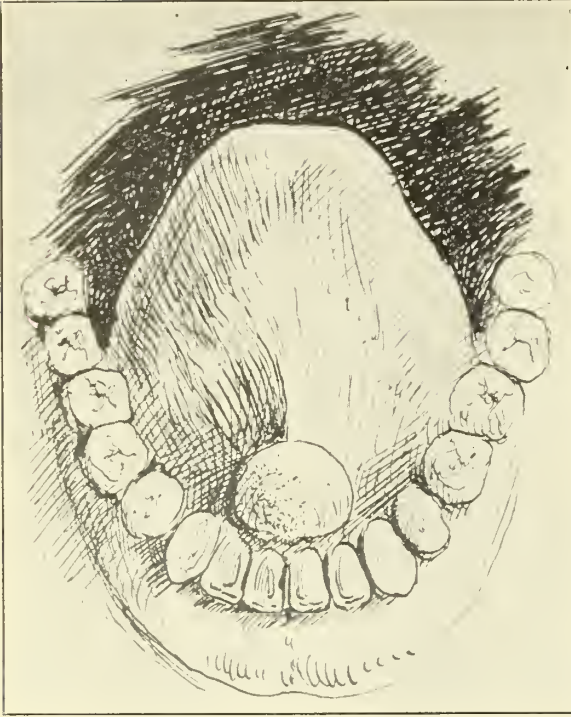


Fig. 11—Epithelioma floor of mouth before treatment.

the lesion healed with very little scar. By this method the usual long and bloody resection of the cyst with the dangers of a general anaesthetic and prolonged hospitalization were avoided. This immediately suggested the employment of electro-desiccation in the treatment of larger epithelial lined cavities, such as post-operative hernias and smaller ovarian cysts. In the latter instance, practically all the ovarian tissue can be saved.

The value of this technic in greatly facilitating the operation for post-operative hernia, is readily illustrated by the following case. After opening the abdomen of a woman who had a very extensive post-operative ventral hernia, the abdominal side of the hernial sac was insized all the way around the opening and the edges of the parietal peritoneum approximated with plain catgut. This shut off the hernial sac from the abdomen. In place of a long, bloody resection of the adherent sac wall, its epithelial lining was thoroughly desiccated. The rest of the abdominal incision was then closed in the usual manner of

carefully approximating each layer of muscle and fascia, thereby obliterating the hernial sac. The thin layer of desiccated epithelium was readily absorbed without infection, the entire wound healing per primum. The scalpel was not employed throughout the operation.

SUMMARY.

1. Electro-thermic methods are of inestimable value in treating benign and small malignant lesions of the skin, particularly with the benign moles and fibroma-moluscum which do not yield to radium. Black pigmented moles, which easily become malignant, but which are unaffected by radiation, can be completely removed by adequate desiccation or coagulation.

2. Electro-thermic methods are very efficient in removing large, accessible malignancy, and bladder, cervical or rectal polyps.

3. Electro-coagulation is a great adjunct to the radiologist in the treatment of accessible malignancy, especially in preventing slowly-healing, painful, sclerotic ulceration after heavy radiation.

4. The absolute value of electro-thermic methods, especially the acusector, in general surgery, is still undetermined. Acusection is of great aid in performing breast operations, opening the abdomen, and doing various pelvic and abdominal operations, particularly intestinal resection and anastomosis. Hemostasis by the clamp coagulation method as herein described, is a great adjunct to the general surgeon in reducing the time of tying off many blood vessels and is an economical asset in the saving of ligature material.

DISCUSSION.

Dr. S. C. Barrow (Shreveport): Mr. Chairman and Gentlemen: I was just wondering what could be said in the way of discussion. The doctor has covered things so thoroughly in every detail that there is nothing left to be said. The terms used, to those men not doing the particular work that he is doing, sometimes are a little confusing and leave the impression that there is

quite an elaborate method to be used, etc. Desiccation, coagulation, fulguration, carbonization scientifically and theoretically differ but for all practical purposes it is the same thing, one being only a degree more than the other.

I made the statement a little while ago that we were not treating our mucous membrane as well as our lip cases by means of radiation, and I am not at this time though I didn't mean to say that I questioned Dr. Grier's result on those cases. We have done it in the past but our failures in lip cases and mucous membrane cases were so constant and our results, good ones, so few that we have switched entirely and are using the coagulation method. I just have two cases to illustrate the ones that we have.

I am my own photographer so no apologies are due for my photography. (Showed slides.) This old gentleman lives near Shreveport. About a year ago he came in with that heavy lip infiltration extending from beyond the median line way back and into the mouth, and with a deep epithelioma at the inner canthus, one on his nose and about twelve over the face. He is nearly eighty years old.

I do all my fulguration coagulation in the office under gas anesthesia. This man was so old that I feared to do it. I thought something might happen. So we carried him to the hospital and in fifteen minutes this whole mass was coagulated back fully two-thirds to the angle of the jaw, deep down into the inner canthus, this one (illustrating) and numerous other ones which you can't see.

He immediately went out of the hospital, that is, after a few hours. I was afraid of secondary hemorrhage but the doctor was with him and he carried him home. I am awfully sorry this doesn't show as it should, but in eight weeks he returned to the office and this had perfectly healed. When this first necrotic area fell out, he couldn't hold water in his mouth unless his head was sidewise. This completely healed, closed in, so that the puckering was not noticeable across the room. This one (illustrating) had healed entirely. Of course that case, gentlemen, was heavily x-rayed over the lymphatics in that area.

Now here (next slide) is the type of case that we most generally see. This was a young man comparatively speaking and he looked cachectic to the last degree. He was sallow and muddy and sick. He had been absorbing a great amount of sloughing tissue debris and matter from this place and that was done in the office under gas anesthesia. He was thoroughly fulgurated, his

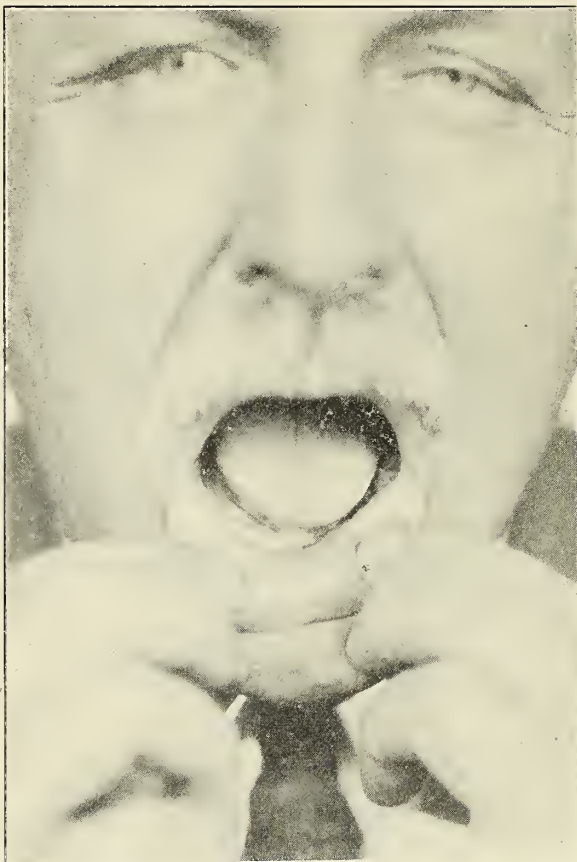


Fig. 12—Same as Fig. 11 after treatment which consisted of implantation of radium emanation, followed in five days by removal with electro-coagulation. The inferior dental nerves were blocked and adjacent teeth removed. Patient has remained well a year and a half.

neck was x-radiated, and in eight weeks he was completely well. This case is over a year old. The other one was not quite so old. He has no glandular enlargement yet and a soft scar there which really looks on him better than it does on the picture.

We feel that those cases can be handled by x-rays, radium and fulguration, but in mucous membrane cases we feel as if we have a better chance now by the electro-coagulation.

Dr. H. W. E. Walther (New Orleans): I have enjoyed Dr. Ward's paper very much. I think his missionary visit to us will bear fruit. We always prick up our ears, I think, when visitors come to us.

I haven't been able to impress my brethren in Louisiana very much with electro-coagulation and its value in medicine. In Chicago, in June, 1924, it fell to my lot and my pleasure to present before the American Medical Association the first paper on diathermy as applied to urological conditions. I stated at that time, and I feel today, that surgical diathermy has proven itself

superior to all other methods of dealing with vesicle neoplasms, tumors of the urethra and lesions of the external genitals.

Up to the present time I have treated sixteen carcinomas of the bladder and six carcinomas of the urethra with surgical diathermy with an operative mortality of five. I have not used radium in the bladder in two years and Bumpus of the Mayo clinic recently informed me that they have used no radium in bladder cancer in over a year. His experience tallies with mine in that he considers diathermy superior to the knife resection of bladder growth.

A word of warning in regard to technic. I believe men taking up this work, as pointed out by Dr. Ward, in their experiments, should practice on raw meat, finding out the penetrability of the current of their machine. The technic is exacting but can be mastered with a little practice. The field should be well exposed and kept dry during the procedure.

Our work is not so spectacular as doing work on the surface of the body and we can't always show lantern slides, but the results are very encouraging and are very gratefully received by our patients.

There is danger in using a bipolar spark on the upper extremities or about the face when giving an ether anesthetic. An electric fan should be blowing the fumes away from the machine and the applicator if you are using unipolar current. We usually on the surface use what we call fulguration, which is spraying the tumor with electric sparks; whereas by using bipolar current, we are using real diathermy or heat deeply by putting the electrode into the growth, sinking it into the mass with no sparking whatever. I think it is a mistake for us to continually mix up these two terms, fulguration and diathermy. It is claimed we are adding unnecessary words to our nomenclature. We are not. Fulguration is spraying a tumor with a spark or series of sparks while diathermy is heating the tissues to a high degree by putting the electrode in the growth with no spray, and, as the doctor pointed out, with no charring of tissue.

Dr. R. H. Foster (Pineville): I appreciated the paper on this topic very much. There are just a few interesting features that I desire to mention. One is the use of diathermy about the soft tissues, about the prepuce and the glans penis. If you intend to employ this method, I want every one to go away from here and remember that there is such a thing as a dark field examination in all appropriate cases. Don't ever coagulate or desiccate a venereal ulcer without making the appropriate examination for spiro-

chaete, and when you want to destroy warts don't forget there will be edema if you use coagulation.

Results in intravesical papilloma have been satisfactory in the few cases I have seen. A few months back I had a gentleman with a papilloma near one urethral orifice about the size of the tip of my little finger, which I attempted to coagulate with the use of diathermy. I had to get the spark anyway but I tried to do the diathermy strictly. I destroyed the growth and he insisted on going to Houston two days later as he was a traveling man and had his program. He went over and reported back in a month or two. There was a mass that I had overlooked which I destroyed, since which time there has been no bleeding and no mass visible.

After the method of Bud Corbis, I attempted the coagulation of the mass of malignant prostate with bipolar diathermy, with the result that the patient was made comfortable and got rosy cheeks and took on weight and everything looked fine for about three months. Then things went bad again and we had a funeral.

There is just one other little matter. In cases of granular cervicitis with obstinate leukorrhea, I have been able to clean up the cervix and get a nice looking result with the clearing of the discharge in more cases than I have been able to do by other method. This is by dessication rather than by bipolar method.

Dr. A. J. Thomas (Shreveport): I have enjoyed Dr. Ward's paper very much, also the discussions, especially Dr. Barrows.' I have seen Dr. Barrow do considerable of this work, he uses standardized technic. There are just a few points that I might add to the discussion. In using this method in orificial work, where the lesion affects the mucous membranes, especially the papilomatous neoplasms, I think the best results can be obtained by using the indirect Tesla technic for the reason you have absolute control over your current without the use of any foot switch. The electric current is carried to patient's body through the autocondensation pad or by means of a block tin electrode in direct contact with the skin. The diseased area in the bladder is visualized with the cystoscope, in the throat a tongue retractor is used, an aluminum probe with its distal end tapering to a needle point, held with the operator's thumb and index fingers is your active or destructive electrode, is applied to the growth and kept in near or direct contact until the tissues are blanched, you ground this current as long as this contact is maintained, drawing the current out of the patient's body through the area you desire to destroy. In case deeper

destruction is required, greater volume and higher frequencies are obtained by proper adjustment of the rheostat and spark gap controls which are the business end of a high frequency machine, with correct manipulation you get greater tissue penetration and destruction. Some of the terms are confusing to those of you without experience in this line of work. Fulguration is a uni-polar current essentially a bombardment of the growth with a shower of sparks. Electro-coagulation is a bi-polar current, the needle or active electrode is introduced or buried in the growth and current applied. Surface lesions about muco-cutaneous junctions that have resisted radium or x-ray radiations I think are being cured by this method, at least I have had some very favorable results. Drs. Clark and Pfahler of Philadelphia and Dr. Plank of Chicago have originated special technic and obtained many cures. I think the surgeons as a whole don't appreciate this line of work, they still cling to the cautery method which produces only superficial heat and carbonization of tissue, carbon being a good non-conductor prevents any electric energy penetration beneath carbonized zone, whereas with Dr. Ward's or other surgical diathermy technic with an efficient high frequency apparatus correctly controlled and applied you can administer a lethal dose of heat to malignant cells at any depth or area desired with good end results, if the growth is accessible, or provision has been made for adequate surgical drainage.

Dr. Ward (in closing): I want to thank Dr. McKinney and the Society for the privilege of being with you these two days, and thank those who have been kind enough to discuss my paper. There are a few points emphasized in the discussion to which I wish to call attention.

Dr. Barrow spoke of eliminating radium and x-ray from cases of malignancy of the mucous membranes. I do not feel that that is justifiable. In treating malignancy of the tongue and floor of the mouth and tonsil, radium cannot be eliminated; in fact, it is an excellent form of treatment. However, by combining it with coagulation or desiccation the cosmetic result is much better, the scar is softer, the pain is decreased and the period of healing and convalescence shortened.

The last carcinoma of the floor of the mouth which I treated had a tiny recurrence after coagulation without previous radiation. This recurrence was in a distant point which was insufficiently treated. I have had other similar experiences and feel that the combination treatment in the mouth is the treatment which ought to be followed.

Dr. Walther mentioned malignant tumors of the bladder. We have had such splendid results with

radium alone that only in a few cases have we used electrothermic methods. We have had good results with our bladder tumors without bladder irritation if the dosage and the screening have been proper. However, there is a very splendid electro-surgical technique, applicable for papillomas of the bladder or rectum, which I will describe briefly. We removed twelve or more from the rectum in one case with a tonsil snare in the following manner:

The tonsil snare was placed about the pedicle of the papilloma and connected with the active electrode. While drawing the snare through the pedicle the current coagulated the tissue allowing the tumor to drop off without bleeding. This method was first worked out and described by Wm. L. Clark.

For anesthesia, while operating about the mouth, one may employ local injection, nerve block or ether, but in using ether the mask is removed from the room or at least a distance from the patient and there is no danger of explosion. Thank you.

PROSTATECTOMY UNDER LOCAL ANESTHESIA.*

CARROLL W. ALLEN, M. D.,

NEW ORLEANS.

There has in recent years been an increasing tendency to lessen the preparatory treatment of surgical cases and this has been justified by the better results obtained in the majority of cases and is explained by the fact that the least disturbance to their usual routine of life the better will their condition be to withstand the surgical ordeal.

However in the operative relief of hypertrophy of the prostate we have in the great majority of cases to consider certain factors which are not involved in other surgical procedures. These factors are the age of the patient and the relation between the bladder and kidney function. In the old and feeble prostatectomy is a formidable procedure, though not attended by a greater mortality than that following any

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

other major operation in the same class of patients and may even show a more favorable comparison by taking certain precautions in the handling of these cases.

The two stage operation is at the present time generally conceded by the majority of surgeons to be the safest plan but many do not fully appreciate the reasons for this procedure as shown by their too hastily undertaking the second stage before the patient has fully recovered his physical equilibrium and the kidneys resumed their normal function.

The two great factors in the production of shock are trauma and hemorrhage and to these in the great majority of cases can be added that of the general anesthetic. In the use of the more improved general anesthetics this may be practically eliminated as a shock producing factor, yet nevertheless has its dangers in certain cases and must be reckoned with. While shock is not entirely eliminated by the use of local anesthesia it is greatly lessened and hemorrhage can be practically entirely eliminated, or at least reduced to a negligible quantity, by the use of adrenalin in the anesthetic solution when injected peripherally around the prostate, inside its capsule, which method I almost invariably use except in cases suspected of malignancy when a sacral injection should be the method of choice.

Few patients requiring prostatectomy present themselves for operation before they have seriously felt the inconvenience of this condition, many have probably already been initiated into catheter life, some have had one or more attacks of acute retention of urine from prostatic congestion, and practically all will show renal complications; nearly all are disturbed frequently at night by having to arise to urinate. The kidneys have gradually accustomed themselves to this condition and are working against considerable back pressure, and the sudden relief of this pressure at operation completely upsets the renal equilibrium leading to congestion

with diminished excretion, probably anuria. Here lies the particular danger in these cases, and to avoid it we must first relieve the bladder and permit the kidneys to recover by performing these operations in at least two stages in all cases that show much residual urine or are suffering from retention at the time of operation. The danger, too, of suddenly relieving a distended bladder cannot be overestimated; vesical hemorrhage may occur associated with renal suppression. In my observation, this procedure alone has caused as great a mortality as prostatectomy.

In extreme cases such bladders should never be opened at once, unless badly infected and the danger of general infection too great for delay. They should be gradually evacuated by catheter, removing but a portion of the urine at a time at two- or three-hour intervals, or if almost completely emptied one-fourth to one-third as much boric acid solution reinjected as there was urine removed. This gradual emptying process should consume from twenty-four to forty-eight hours before the bladder is opened.

Rarely a case is met with in which there is considerable distention and the passage of a catheter too painful, difficult, or even impossible of accomplishment. In such cases, if the suprapubic incision is carried down to the bladder, the bladder can then be emptied by a gradual process of aspiration at intervals of several hours, withdrawing more and more at each successive aspiration, thus overcoming the difficulty. During these intervals the suprapubic wound is kept packed. After twenty-four or forty-eight hours the bladder, which is now fairly collapsed, can be opened with safety.

The method of performing the cystotomy and of dealing with the bladder afterwards is of some consequence. It may be opened with a free incision with the introduction of a tube or catheter to its base and the attachment of some syphoning apparatus,

or the escape of urine may be effectively controlled by making a small buttonhole opening into which is passed a Pesser catheter. The incision is then infolded and held by two stitches, one placed on either side of the catheter. Such a valvelike closure will leak very little, if at all.

Badly infected bladders after being freely exposed and sutured to the rectal sheath can be opened by a cautery thus reducing all raw surfaces to a minimum.

The advantage of some method which permits the collection of all urine is quite important as in this way the functional activity of the kidneys can be accurately gauged. It will usually be found that the urinary excretion for the first two days diminishes considerably following the cystotomy, gradually increasing from the third to the fifth day, and is about normal by the end of the first week. By this time, if the patient's general condition is good as shown by normal appetite with good digestion, free bowel movements and after a few nights' normal restful sleep, free from the annoyance of frequent urinations, the removal of the prostate can be undertaken.

If any question exists regarding the condition of the kidneys a further delay is necessary, or their capacity may be tested by phenolsulphonephthalein, and under no condition should the prostatectomy be attempted until they have reached a fairly normal condition of elimination.

In determining this last point of normal kidney function we cannot adopt the usually accepted standard of the healthy person but have to accept what is normal for the individual as determined by a return to their pre-operative physical condition as shown by a constant urinary output, easily functioning digestive organs and refreshing undisturbed rest at nights.

Some cases are extremely slow and tardy in recovering their pre-operative status and I have always felt I was well repaid by

allowing them ample time for a full recovery.

In one case in a patient 84 years of age he went home where he was so comfortable he remained for one year and returned in excellent condition making an easy recovery from the second stage. I feel that any attempt to operate him shortly following the cystotomy would have been fatal.

By handling patients in this way many bad risks and feeble individuals may be safely carried through the surgical ordeal.

During the interval between the suprapubic cystotomy and the prostatectomy the bladder should be washed once or more daily with warm boracic acid solution and the suprapubic wound kept lightly packed, and any infection in the cellular planes which may have occurred, which, however, is rare, should be well under control before the final operation is attempted.

It is usually noticed that the prostate diminishes decidedly in size following the cystotomy due to the relief of the congestion and this diminution in size facilitates its later removal.

For the suprapubic cystotomy the bladder is first irrigated freely through a catheter with boracic acid solution and left moderately distended.

It would seem unnecessary to discuss the technic of anesthetizing the abdominal wall for the cystotomy except to state that it is accomplished by a progressive method of infiltration from the skin downward and as much of it as possible is done before the incision is made. The deeper parts beneath the recti-muscles are anesthetized as they are approached.

Before the bladder is opened it is desirable to fix it to the posterior rectal sheath to prevent the possible soiling and infection of prevesical tissues below or the pro-peritoneal tissues above. In cases where the bladder is small and retracted the peritoneum may be opened in searching

for it. Should this occur no bad results need be anticipated if it is immediately closed and the opening of the bladder need not be deferred for this reason. After the bladder is securely anchored to the posterior rectal sheath, a stab wound is made in its most prominent part and a suction nosel slipped in as the scalpel is withdrawn and its contents evacuated without soiling the wound.

The superior bladder-wall is not, as a rule, very sensitive but it should be lightly infiltrated before being incised. The bladder is then freely irrigated by passing an irrigating nozzle down alongside the suction. Following this its cavity may then be explored determining the size of the intravesical projection of the prostate, removing calculi should they exist, and obtaining any other information which may be necessary. If a direct visual inspection is desired in cases in which complications are suspected, this can be easily accomplished by evacuating the contents of the bladder and by placing the patient in the Trendelenburg position air will enter and dilate the bladder and its interior can thus be freely inspected by gently retracting the incision.

If such intravesical examination is necessary or it is desirable to examine the vesical cavity digitally, some form of intravesical anaesthesia then becomes necessary.

The particular sensation with which the bladder is endowed and which is felt upon any abnormal contact with its walls, either internally or externally, is that feeling which we term the desire to urinate. This feeling is more easily excited by manipulation from within and always more acutely toward the vesical neck and prostate region. Pain is only complained of when these manipulations have been rough or when actual trauma has been inflicted. The introduction of a finger within the bladder for purposes of exploration excites a desire to urinate and this desire may become particularly urgent and always becomes so when the parts near the vesical neck are

touched. It is not a pain but still may be quite unbearable and demands some effective methods to control it. This is accomplished in but a few moments of time. With the patient in the Trendelenburg position to dilate the cavity and bring its base into plain view, the anaesthetic solution is injected with a long, fine needle at four or five points around the vesical neck, injecting about one-half dram at each point. The needle is advanced just through the mucous membrane with a quick thrust, injecting the solution as the needle is advanced. Unlike the skin and most other tissues the bladder is tardy in recording its sensations and anaesthesia results before any sensation is felt. Ordinarily, these injections around the vesical neck are sufficient for all intravesical manipulations, which can now be undertaken with the greatest freedom. However, in complicating conditions where the lateral walls are to be operated upon, further infiltration around the field becomes necessary. But as most nerves reach the bladder near its base and around the vesical neck, the injections made here are most effective in controlling its sensations.

If the case is one that does not come within the class requiring a two-stage operation but the patient is in fairly good physical condition with good kidneys and with but little residual urine and no bladder infection, the prostate may be anaesthetized and removed at once, though I rarely ever perform the one-stage operation.

Whether this be done in a one- or two-stage operation, certain preparatory measures are advisable. One hour before operation a suppository containing 10 gr. of anaesthesin is placed in the rectum to anaesthetize this region and prevent any discomfort when the finger is introduced here in elevating the prostate; at the same time, one hour before operation, a hypodermic of morphin $\frac{1}{6}$ gr. and scopolamin $\frac{1}{150}$ gr. is administered to lessen psychical disturbances.

If the case is one in which a cystotomy has previously been done, the Pesser catheter or tube is removed from the suprapubic opening. The wound is found presenting a granular surface sloping down toward the vesical opening. This is most effectively and quickly anaesthetized by passing a fine needle through this granular surface and injecting just beyond. By beginning these injections above under the skin margin, the needle can be advanced obliquely in several directions creating a zone of anaesthesia just external to this wall of granulation tissue which will diffuse in all directions, blocking nerve-fibers which come into the field. This is done on both sides and carried down to the vesical opening. Injections are similarly made above and below the limits of the wound in the subcutaneous tissues in the median line, as the wound has probably contracted and will have to be enlarged. The passage of a fine needle through this granulation tissue causes no pain and for that reason is preferred to passing the needle from the skin down. A finger is passed into the bladder to outline its upper limits and determine the proximity of the peritoneal cavity above. Additional injections are now made into the upper wall of the bladder with the finger within guiding the point of the needle.

The bladder opening is enlarged and the patient placed in a moderate Trendelenburg position. After the bladder is well irrigated and emptied with the suction machine its walls are then retracted by long, deep, narrow retractors, bringing into view the field of the prostate.

In cases of simple benign hypertrophy I prefer the direct method of anaesthesia as described in this paper, but if malignancy is suspected or complications exist, sacral anaesthesia is preferred. My reason for preferring the direct method of anaesthesia is that it is easily and quickly carried out, gives immediate anaesthesia and exerts a decided control upon the operative hemor-

rhage due to the adrenalin content of the anaesthetic solution. In cases of malignancy any injection around the prostate are obviously objectionable and all manipulations should be reduced to a minimum, resort is then had to the sacral method which also gives a wider area of anaesthesia which is often desirable.

With the bladder opened the needle is passed beneath the mucosa on the anterior bladder wall and progressively passed downward toward the prostate injecting as it is being advanced, when the prostate is reached the needle is passed to one side the solution flowing submucously over it. This gives us an anaesthetic pathway to the field of operation. The deep injections are begun at the vesical neck within this anaesthetic area and are made from this point backward on each side.

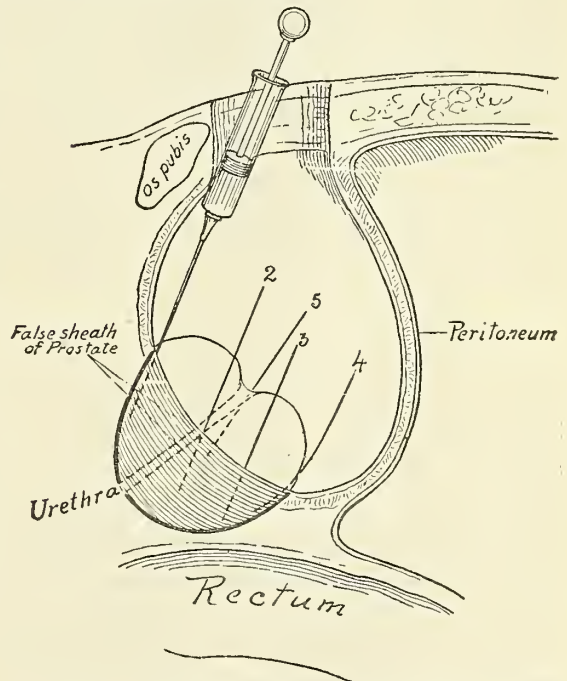


Fig. 1. Author's method for injecting prostate: Lines 1-3 indicate points for injection above and on side of prostate; 4, beneath prostate—this may at times be more conveniently made by a curved needle; 5, enters urethral opening, penetrates urethra, and is made between lobes of gland. While the lines show the axis of the injections with the prostate lying normally in its bed when the injections are made, the prostate is lifted up by a finger in the rectum, so that the needle can be more readily entered in the proper position through the suprapubic opening.

Depending upon the size and shape of the prostate, several points are selected for injection on the vesical surface, usually one below the opening of the urethra, near the base of the gland, and one on either side. The needle is passed through the mucosa, with the idea of making the injection between the true and false sheath of the prostate, as it is in this plane that the solution must diffuse around the gland, and it is in this plane that its enucleation is effected. It is here where the large venous plexuses are situated and where the nerve-filaments are more easily reached as they pass through to the prostate.

Five c.c. of a $\frac{1}{2}$ percent novocaine solution, containing 10 minims of adrenalin to the ounce, are injected at each of the above points. The needle is then passed into the urethral opening and the lateral wall pierced first on one side and then on the other, and similar injections are made at these points. During these injections the finger is kept within the rectum to better guide the passage of the needle around the prostate where its point can be felt passing between the gland and its false capsule; it also facilitates these injections by elevating or manipulating the gland and guards against the penetration of the false capsule by the needle.

If the gland is very large, or there is much of a projection above the urethral opening, an additional injection can be made here. Otherwise the above will prove sufficient. It is well now to wait two or three minutes for the solution to diffuse and thorough anaesthesia to be established before beginning the enucleation. While waiting for the solution to diffuse, the action of the adrenalin is observed in the prostate, which becomes quite pale and bloodless.

In making the injections, should they be made into the substance of the gland itself no harm will be done, only they are not quite as effective as when injected peripherally between the true and false sheath; any

excess of the solution thrown into the gland in this way is removed during its enucleation and not absorbed. Following these injections a catheter is passed into the bladder. The enucleation of the gland can now be undertaken by any method preferred by the operator and will be absolutely free from all pain or other discomfort. If the intra-urethral method is chosen the passage of the catheter can be omitted until later, but I have always found its presence a convenient guide to the location of the urethra during the different stages of the operation. A most striking feature is the absence of all bleeding, only a few sponges being slightly soiled, the loss of blood amounting to not more than a few drams at most and there is little blood to swab out of the bladder afterward.

The catheter which had been left in the urethra is now utilized to draw through the urethra, from the bladder outward, a stout piece of silk which has been doubled and passed through a plug or pad of iodoform gauze arranged somewhat cone-shape and about the size of the cavity left by the removed gland. The silk thread is long enough to reach beyond the glands penis and when pulled upon draws this plug effectively into the cavity thus insuring against any possible secondary hemorrhage. The plug in passing into the cavity also has the effect of turning in any free edge or shreds of mucous membrane against the raw surface of the capsule. One end of the pack is left long enough to protrude through the suprapubic opening to facilitate its removal later. This is a most effective and simple method of providing against possible secondary hemorrhage, which is impossible when the pack has been properly placed. As the pack is entirely under your control, it can be forced in tighter by drawing upon the urethral string, or loosened by manipulating the suprapubic end. This pack is usually moistened with compound tincture of benzoin, though occasionally mercurochrome is used.

Several ingeniously contrived bags have been devised for this purpose, but I prefer to use the pack.

A drainage tube placed in the suprapubic opening and a few approximating sutures complete the operation.

The pack is removed in twenty-four hours when danger of hemorrhage is past and the case is handled by the usual methods following these operations.

DISCUSSION.

Dr. E. H. Linfield (Gulfport): I do not intend to try to add anything to this splendid paper by my old professor of surgery and my chief when I was an interne, but I would like to say that in the preparation of your patient for a prostatectomy there are several things that can be done that will decrease the renal tension. Dr. Hugh Young has devised a method of releasing the pressure on the renal system. He puts a catheter into the bladder and has a bottle with some antiseptic solution in it, oxycyanide of mercury 1 to 1000, and a tube running from the bottle down to a Y which connects with the catheter; on the other side of the Y this tube runs up to the level of the solution in the bottle, and then down into a waste bottle. This, as I understand it, can be lifted and lowered as desired. He fills the bottle with the solution and elevates it above the intravesicular pressure, which you can determine as the solution goes down into the bladder and then comes back out through this tube. When it begins to waste out into the bottle below you know you have reached the threshold of the bladder vesicular pressure. In this way with this antiseptic solution you have constant irrigation of the bladder, you get away from infection, and every day you lower the tube a little until when your test is made you find the kidneys are functioning correctly. If you have your blood chemistry that is ideal.

I would like also to stress the doctor's remarks about keeping up with the blood pressure. You know with increase of renal tension you have increase of blood pressure, and these men with a large prostate, where there has been a retention of large residual urine, will show an increase in blood pressure, but as the renal tension diminishes the blood pressure comes down accordingly. Keeping up the creatinin and urea the blood comes down in proportion and after about the first week you get the blood pressure and blood chemistry and phthalein about on a level, and then you can do your prostatectomy without much danger.

Dr. M. Q. Ewing (Amory): I want to say a word in regard to local anaesthesia. If you do an operation under local anaesthesia it must be done carefully and it must be done right. Surgery under local anaesthesia must be done correctly. As to this particular operation of Dr. Allen, I have tried it, but without much success. I had to add gas-oxygen anaesthesia. I hope some time to see Dr. Allen do this operation and learn better how to do it, because I appreciate the value of being able to do the operation under local.

Dr. Carroll W. Allen (closing): I have not much to add except that I am enthusiastic about local anaesthesia. I started using it years ago when we had to work with cocaine. Novocaine, adrenalin and all these things have been luxuries to us. We also used chloroform for general anaesthetic. When I first went to Charity Hospital we never gave anything but chloroform as an anaesthetic, and I only saw ether given a few weeks before I left the institution. It was worth while developing local anaesthesia, and I still believe it is the best anaesthetic in prostatectomy on account of controlling the hemorrhage. There are some dangers and difficulties under local anaesthesia—but they are less than under general. With the use of local you can exercise a decided control of hemorrhage. The two causes of shock are trauma and hemorrhage—and hemorrhage can be largely eliminated.

OUABAIN.*

ITS ACTION IN CERTAIN CONDITIONS OF THE
HEART.

CHAILLE JAMISON, M. D.,

AND

PHILIP H. JONES, JR., M. D.,

NEW ORLEANS.

Strophanthus, a species of plant from the family of Apocynaceae, has been known to medical science for about fifty years. Juices of this plant, which is indigenous to certain parts of Africa, were used as arrow poisons by the natives. Its pharmacodynamic action was studied in 1865 by Vulpain and Pelikan. A few years later Frazer isolated the glucoside *Strophanthin*. Since that time a number of *Strophanthins*

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have been isolated, varying in their compositions and in their mode of action largely according to the manner of their preparation and the particular species of plant from which they are derived. The best known of these Strophanthins are the Amorphous Strophanthin, extracted from *Strophanthus Hispidus* and from *Strophanthus Kombe*, and the crystallized Strophanthin, derived from *Strophanthus Gratus*. For many years, these Strophanthins have been known to have a remarkably prompt and life-saving action. On the other hand, sudden death has only too often followed their use. For this reason, the use of Strophanthin has fallen into disrepute, despite its known beneficial effect; the risk of sudden death outweighing any possible value to be derived. Vaquez believed, and has since proved that the accidents attributed to Strophanthin were due to the fact that the preparations of this drug were not stable. In 1888 Arnaud prepared a Strophanthin, derived from *Strophanthus Gratus*, and in a crystalline form, which he called *Ouabain*; this preparation is absolutely stable and invariable in its action.

The action of *Strophanthus* above all is as a heart poison. Soon after the injection of a lethal dose, the heart beats more slowly, the ventricles contract more and more, and their out-put diminishes, and death occurs when the heart, rigid, contracted and empty of blood, stops in systole. The influence is exerted first on the ventricles; the auricles resist longer. It has been shown that the poison acts on the myocardium itself, and not on the nerve filaments. The action of the drug does not depend on pneumo-gastric stimulation, or on stimulation of other nerves to the heart. *Strophanthin does not seem to act on the vessels*. This opinion was first expressed by Vulpain and Pelikan, and has since been confirmed by the researches of Frazer, Langgaard, and of Otto Vogt. The action of the drug on conductivity has not been so thoroughly studied, though it is stated that the a-c interval is prolonged. The

majority of pharmacologists consider the action of Strophanthin identical, or nearly identical, with that of digitalis. It is known, however, that it varies in certain definite respects, and one of the most marked of these is the fact that it is excreted from the body very promptly.

Clinically the drug has certain great advantages; the first of these is that it can be given intravenously and that the digitalis-like action is manifest within a few minutes. It has no cumulative action. It does not constrict the blood vessels. This means that in a serious case of heart failure one can administer *Ouabain* intravenously, at the same time administering digitalis by mouth, and that the action from the *Ouabain* will occur promptly and one does not have to wait many hours for the action of digitalis to become manifest. It fills in that long gap that we know must lapse before digitalis by mouth can show its effect. In dealing with powerful drugs, we must first be certain that the dosage we contemplate can do no harm. We can feel that in the recommended doses *Ouabain* has been proved to be safe at the bed-side, because Vaquez has given over 2,000 intravenous injections without a single mishap. This encouraged me in the use of the drug, and during the last few months I have given seventy-four intravenous injections of *Ouabain* without anything even approaching a detrimental reaction; I have given this drug to cases with Aortic regurgitation, mitral stenosis, fatty and fibrous myocarditis, and have found it of the greatest value, and have seen nothing which would discourage me in its use.

We have given this remedy to fourteen different cardiac cases; one case has received as many as twelve doses. The drug is given in doses varying from 1/480 to 1/120 of a grain, and is administered only once in twenty-four hours. I recommend that four doses be given at intervals of twenty-four hours, and that digitalis be not given at this time. It is always to be given

intravenously. The use of the drug intravenously has no local deleterious effect upon the vein as we have had the opportunity of studying the veins post-mortem in certain of these cases. It is, of course, understood, that *Ouabain* is in no sense curative, but that it is merely a prompt and efficient means of restoring cardiac compensation. Of the fourteen men who received *Ouabain*, six are dead. These six men, however, died at periods varying from several days to several months after the last dose of *Ouabain* was given. We felt that death in all of these cases could in no way be attributed to the use of the drug, as death occurred in no single case sooner than twenty-four hours after the administration of the drug.

Ouabain is indicated particularly in heart failure with aortic regurgitation; a disease in which it is well recognized that digitalis either has no effect or a deleterious one. Following its use, the relief of dyspnoea and the feeling of well-being is marked, although the pulse rate and blood pressure appear to be very little affected, and it is interesting to note that in a large percentage of these cases the blood pressure falls as compensation is restored, rather than rises as one would expect. I attribute the good effect of *Ouabain* in aortic regurgitation largely to the fact that it does not constrict the coronary artery, though I have no way of proving this fact. In any case of acute heart failure (and this means, of course, usually the left heart), *Ouabain* is indicated, and is life-saving. In chronic cardiac failure, particularly where failure of the right side of the heart is the outstanding feature, I have found the drug of far less use. In heart failure, due to mitral disease (the so-called rheumatic heart), I do not feel that any drug is to be compared to a good preparation of digitalis, and I cannot see that *Ouabain* has any indication in this disease except in a sudden emergency. It is worth a try in any case, no matter what the etiology, where digitalis has failed. The continued use of *Ouabain*

by vein, or the use of other preparations of *Strophanthus* by mouth, may bring about nausea and vomiting; this disappears promptly on withdrawing the drug. I can tell you nothing about the action of this drug on the various cardiac irregularities, as I have not yet had an opportunity to use it in such conditions. When extrasystole follows the use of *Ouabain*, it is a warning that the size of the dose should be reduced. My experience does not lead me to believe that the diuretic action of this drug is to be compared to that of digitalis.

In conclusion, I feel justified in stating that the *Ouabain* of Arnaud is an absolutely safe preparation in doses of 1/480 to 1/120 of a grain, given intravenously, not more often than every twelve, and better, every twenty-four hours, and given for four consecutive days only. These injections, however, may be repeated every day for four days, after an interval of several days or a week has elapsed. It is a very valuable drug, far superior to digitalis, in the treatment of the heart failure of aortic regurgitation. It is life-saving in certain cases of acute cardiac dilatation.

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DISCUSSION.

Dr. D. O. Willis (Leesville): This subject was very interesting to me and Dr. Jamison has suggested some things that I would like to have him explain just why he recommends, especially why we should not continue the use of this drug longer than four days.

All through my professional life, my most intimate co-worker has been an eclectic physician and I remember well that for the last twelve years at least, he has used strophanthin and occasionally ouabain, and I have seen some splendid results from the use of it.

I don't recall to just what extent we have ever used the ouabain intravenously, although we have used it that way, but I had never observed it as being necessary to withdraw it within four days or after four doses. His preference for the continued use of the drug, was Abbot's specific tincture, and occasionally I have seen the symptoms that Dr. Jamison speaks of, with nausea and vomiting, arise, where it would be necessary to withdraw the use of the drug. But I have seen patients take this drug, this specific tincture (I have given it to them myself and have seen my good friend, Dr. Jones, give it to them the same way over a considerable period of time with no untoward effects) and I have thought at times that it was fully equal to digitalis in its diuretic effect. I have found it a splendid remedy to eliminate the excess water from the tissues and I would like to have Dr. Jamison tell us why he couldn't continue it more than four days.

Dr. J. A. Danna (New Orleans): Some three weeks ago I got a telephone message about three-thirty in the morning that a very prominent citizen of New Orleans was very, very sick, and from the description of him and my previous experience with him, I thought the best thing to do would be to send an ambulance for him and get him to the hospital as quickly as possible and then see what could be done. Meanwhile I telephoned for a real doctor, who was Dr. Jamison, and we all got there about the same time.

The man is over eighty years of age, I think he is eighty-four, and he is an old cardiac case that breaks down every once in a while and has to stay in bed for a couple of weeks to get strong enough to get around on his feet again. He was as nearly dead as I ever saw anybody in my life. He was pale, his pulse was irregular and somewhere around 130, sort of jerky, he had a bronchorrhea and breathing as though he was just about to pull on his diaphragm and let it go.

I saw the most remarkable effect from a hypo of ouabain given intravenously by Dr. Jamison that anybody could ever imagine. That man is living today and I think he is going to get strong enough to run around for a while and break down once more, but I want to testify personally to the miraculous effect of one hypodermic of ouabain.

Dr. S. E. Graham (Lottie): My old father has a case of regurgitation and he has been taking an official tincture of strophanthus for a good many years. I have read, I think by Dr. Smith, that it is dangerous to give strophanthus for a while and then leave it off. He has been taking it continuously for a period of about seven years. I wanted to ask whether or not you would consider it wise to continue the use of strophanthus in his case. He has a rather well marked case of aortic regurgitation and he is now eighty years of age.

Dr. Jamison (closing): I want to thank the gentlemen for the discussion which has been particularly interesting to me because they have told me something I have been trying to find out for the last six months.

This work was undertaken in connection with my service at the Charity Hospital where all of you gentlemen know how prevalent aortic regurgitation is among the negroes. For instance, it has been stated that aortic regurgitation is rare in men under thirty-six. To show you the wealth of material we have, I have six men in my ward now with well marked aortic regurgitation, no question about it, and all of them under twenty. We have learned from years of experience, and if Dr. Lemann were still here he would back up what I say, that digitalis in these cases with aortic regurgitation has very little effect. We have been casting around for years to find an efficient drug, and Arnaud's preparation of strophanthin, which is a crystalline strophanthin derived from *Strophanthus Gratus*, is invariable in its action. If you give a man a one hundred and twentieth of a grain, you know you are going to give him a one hundred and twentieth of a grain and that action is going

to be just as definite as that of a good preparation of tincture of digitalis. In other words, if you mean to give him a one hundred and twentieth of a grain you are not going to be giving him a twentieth or a fiftieth without knowing it and bring about his death.

Dr. Willis put a question that I am embarrassed in answering. The only reason that I have said four days was because I was scared to keep it for much longer. We have gone to five days but we knew that we were dealing with a very powerful drug. We try to be just as careful with our negro patients as we would with millionaires as far as the hospital service goes, and I really have not cared to go very much farther.

Another reason is that we have felt that after using this drug once every twenty-four hours and preferably in the dosage of 1/120 of a grain, we have gotten such remarkable results that we haven't felt it was necessary to go very much farther.

All through the literature (I have rather a large bibliography as I have been studying the subject for months) you will find reference to small dosages of tincture of strophanthus. I have not tried it. I must admit we used strophanthus years ago but were a little afraid of it particularly because of its nauseating effect.

That is purely a personal thing, doctor, that of every four days. I don't like to talk about a thing I don't know and I know by giving it every day for four days you are not going to kill anybody from the strophanthus. He may die of heart disease but you are not going to get the immediate death that occurs when you give a dose of ordinary strophanthin, and it occurs only too frequently and very quick, just like that, within a few minutes. We have not seen it happen and really the number we have given it to is far greater than that cited in my paper.

In answer to Dr. Graham, I should certainly say, yes, keep up the tincture of strophanthus particularly if there is no gastrointestinal disturbance. I should keep it up by all means.

Finally, I remember what a controversy was started at the last meeting of the State Society when an electrocardiogram was mentioned, but here is simply an example of this work. No man at the present time can go with any certainty before a scientific body of men and speak of heart drugs unless he knows what the electrocardiogram shows, because that would definitely show you whether you were getting effects or not. The changes in the wave T and the right ventricular preponderance are definite.

I hope to present this subject in a final view at the next session as we expect to have an

electrocardiograph in the hospital. My mere impressions as a physician have some value to me and to my friends; they are of no value scientifically, and I must say that this is largely based on an impression and on observation of quite a fair number of clinical cases but I have not the written proof of the action of this drug that an electrocardiograph will furnish me and until that time I do not care to be dogmatic. I present this to you because I believe it will in time save life and prove of great value in practice. (Applause.)

SURGICAL PROCEDURE IN SPECIAL FORMS OF INTESTINAL OBSTRUCTION.*

I. C. KNOX, M. D.,

VIKSBURG, MISS.

The proper title for this paper perhaps would be, "A Surgeon's Procedure in Certain Forms of Intestinal Obstruction," for it is my intention to bring out some of the points to be considered when seeing a case of intestinal obstruction.

It is not always our good fortune to have cases referred to us with proper diagnosis, and very frequently much valuable time is lost in making a diagnosis. As our mortality is governed to a great extent by an early diagnosis, and the surgical procedure which is necessary, becomes most hazardous, and death occurs, it behooves us not to delay. Our treatment should be prompt, for in no class of cases do we have a condition fraught with graver danger. In order to make the proper diagnosis in any of these cases it is necessary to have laboratory aid, and frequently we are able to determine more nearly thereby just what the condition is and what steps may be safely taken. Recent studies have proven that obstruction in the upper alimentary tract produces toxic condition as a rule, not an acidosis as is so commonly thought, but an alkalosis. The blood findings in such an event are: plus urea, plus creatinine, and minus chlorides. The treatment should

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manifestly consist in the administration of glucose with chlorides. Obstructive biliary lesions with consequent toxemia almost always produce acidosis, with characteristic blood findings which indicate the therapy required. Normally the blood plasma contains 500 to 600 mg. chlorides per 100 cc. of blood. Diminution in the amount of chlorides present results in alkalosis, in which we have a plus combining power of the blood plasma for carbon dioxide. Soon after this there is a rise in the nonprotein and urea nitrogen of the blood. Hayden and Orr believe that the fundamental change consists in the fall of the chlorides, and that this is not due to any great extent to the loss of chlorides through the vomiting of gastric juices, but it is related to the protein destruction. When we consider obstruction at or near the ileocecal valve there is a rise in the blood nitrogen, but no change occurs in the chlorides so that there does not seem to be the same indication for treatment by chlorides as in high intestinal obstruction. They believe that as the chlorides rapidly fall in pyloric or in high intestinal obstruction, sodium chloride intravenously is an excellent therapeutic remedy. They also find that in the toxemia of a high obstruction, sodium chloride be given in an initial dose of one gram per kilogram of body weight, and that the chlorides in the blood be watched carefully to estimate subsequent doses. There has been some very interesting research work done recently in intestinal obstruction by Foster and Hausler that has served to clarify the somewhat confused situation resulting from the numerous divergent theories as to cause. Stone concludes that pressure is an important factor, and that the increased pressure found in obstruction causes absorption of toxins that would not pass through the wall of normal unobstructed intestines. Werelius, of Chicago, believes that death from obstruction is due to liver insufficiency, and cites experiments to substantiate his view. He does not think that bacteria play any

special role in causing death from obstruction, unless the bowel ruptures and peritonitis supervenes.

Dragstedt, Cannon and Dragstedt, as a result of experimentation by themselves and their associates, believe that intestinal obstruction tends to the development of proteolytic intestinal bacteria without regard to the character of the diet.

Flomdke (*Minn. Med.*, August, 1924) considers the differential diagnosis of acute intestinal obstruction as follows: 1st. Peritonitis—there is usually history of acute infection. 2nd. Acute pancreatitis—usually in obese patients having previous gall-bladder trouble, sudden profound collapse with early pinched expression and cyanosis. 3d. Acute appendicitis—usually within safety period with a rise of temperature, leucocytosis, localized pain, and rigidity. 4th. Acute perforation of duodenal ulcer—history of previous digestive disturbance, pain more sudden, severe, prostrating, and constant. However, as a rule I do not believe that it is the acute conditions that require more study to diagnose but those cases that result from some malignancy, stricture of the rectum, pressure from intra-abdominal growths that come on more or less insidiously. Whatever the cause of the toxemia may be or whatever the cause of the obstruction may be, and I might say regardless of the condition of the patient, the treatment is definitely surgical and prompt.

Severe abdominal pains in a patient should always receive the most careful attention, and no time should be lost in meeting the exigency of the situation. An intense pain accompanied by constipation and vomiting indicates a severe condition; further, when the vomiting becomes fecal, it demands immediate interference.

The first need of the patient is relief from pain, and this is best accomplished by morphine given hypodermically. An enema given and repeated if deemed necessary, but laxatives and purgatives must be abso-

lutely forbidden. If the patient is vomiting, the stomach should be washed out, not only to give the patient relief, but as preventive of the patient inhaling the vomitus while under the anesthetic; or, if we decide on local anesthesia,—stomach lavage is advisable to relieve over-distention.

In the past, surgeons very frequently have used solutions of soda in stomach lavage, and not infrequently left in the stomach various amount of soda solution for absorption, doing this under the theory that they were dealing with an acidosis. As I have previously stated, and as has been conclusively proven, we most often have an alkalosis in this type of condition and while I do not approve of any solution being put into stomach, if any is left in the stomach for absorption, it should be sodium chloride, so that the depletion of chlorides under which the body economy is laboring may be lessened.

It is my belief that we should not lose any time either before opening the abdomen, or after we are in the abdomen. I believe that the smallest amount of trauma, the least amount of shock, with as much speed as is compatible with thoroughness and safety, is a necessary requisite in these cases. The mortality in obstruction is still very high. While it is not as high as formerly, it is still too great, and even in the best hands it demands the most careful and expert attention. Ashhurst collected a record of 346 cases of intestinal obstruction with a mortality rate of 69.3%. Guillaume, quoted by Lee and Downes, found in a record of 694 cases that there was 17.5% mortality where enterostomy alone was performed; 48.2% where simple release of the obstruction and 24.8% of the patients died when the operation consisted of relief of the obstruction and enterostomy. The lowest mortality rate was in the group of cases in which enterostomy alone was done, while the next lowest was when enterostomy was performed and relief of the obstruction was accomplished. I will not attempt to take up the different types of

obstruction nor try to outline the technique in each individual case, for we should deal with the case according to the pathology found, always having in mind the safety of the patient; however, there are some rules which we are bound to follow. If a diagnosis is made, and operation performed within the first few hours while circulation is still good in the obstructed loop, the bowel should be released and abdomen closed without drainage. If obstruction has existed for a longer period and signs of toxemia have appeared, the obstruction should be released and enterostomy performed. If the patient is extremely toxic, and apparently unable to stand any additional shock, an enterostomy alone under local anesthesia with the least possible manipulation should be done. If the bowel is gangrenous and conditions critical, the gangrenous portion should be excised and enterostomy performed, same being done as low as possible and near the obstruction. Shands reports three cases where enterostomy was done first and resection later, he believing that the patients were too sick to stand a one-stage operation.

It is manifestly impossible in the time at my disposal to consider in detail every case of intestinal obstruction. We have considered intestinal obstruction in general and have laid down points which I consider paramount in relation to its diagnosis and noted the fundamental rules of treatment which apply to all cases regardless of the etiology. I wish now to consider in more detail three conditions which in my experience have accounted for the majority of the cases of intestinal obstruction: 1st, intussusception; 2nd, hernia, and 3d, post-operative obstruction.

In intussusception, which occurs most often in infants, our aim should be and must be, if we expect to tide any of these little fellows over this very serious lesion, to safeguard the infant from shock in every way possible, and combat dehydration. If I may repeat, there is no class of case in which early operation with proper prelim-

inary preparation and fast work as can possibly be done without sacrificing technique. We have three types of operation in this type of obstruction: 1st, Disinvagination. 2. Temporary relief by proximal enterostomy; and 3. Resection. It is not always advisable to resort to disinvagination alone, for where the intussusception has been present for some length of time we frequently have adhesions take place between the two peritoneal coats of the two parts of the bowel and prolonged taxis will not only be of little avail, but may become a dangerous procedure. Temporary relief by proximal enterostomy is advisable where the patient's condition is so feeble as to contraindicate an attempt at resection. That it is valuable in some cases is beyond question, but undoubtedly it is more useful in this type of obstruction than in some others.

Resection in the face of acute intestinal obstruction in infants has been regarded as an operation of last resort; however, Dowd reports a case of resection and an anastomosis in a five-day old baby, but advises against a two-stage resection and particularly cautions against the use of foreign bodies, such as buttons, bobbins, etc. However, Woolfenden, who did a successful resection in an infant, used a Paul's tube in a two-stage operation. It is my belief that whenever a resection is indicated the removal of the obstructed bowel *enmasse* is followed by an anastomosis immediately. Bolling reports a case in an infant five weeks old of intussusception, and Clubbe in 127 operations for intussusception reports seven resections with one recovery in an eleven month old child. Flint also did a resection on a baby three months of age. I have a case which I wish to report here of an eleven months old baby. J. H., Jr., white, male, age 11 months. Family history, irrelevant. Past history was that baby had never been sick before. He became very fretful and soon began screaming so much that his mother called in the

family physician. Before the physician arrived baby began vomiting and straining at stool.

Enemas were given with little or no results. Oil was given and enough paregoric to relieve temporarily, and a course of calomel was given later on in the day. The child kept vomiting and straining at stools until now the stools were very small bits of bloody mucous. More oil was given and more enemas—without relief. At 6 a. m. of the fifth day of illness I was called in consultation. After getting the above history of the case, examination disclosed the following: Eyes were sunken, skin pale and clammy, respiration more or less labored, pulse rapid, child almost continuously vomiting or trying to. Abdomen was distended, more or less tympanitic, but on palpation I found a rather large mass in the upper left quadrant, which I decided was an intussusception. I advised an immediate operation, which was readily agreed to. At seven o'clock I opened the abdomen, making an upper median incision from ensiform to umbilicus. The mass was delivered into wound and some effort at disinvagination was made. Seeing that this was going to cause too much traumatism and with history of five days' duration I concluded that there was very likely some adhesions between the peritoneal layers and hence decided to resect the whole mass. This was done, the end of the ileum was closed and the end of the ascending colon was closed. A side to side anastomosis was done and the abdomen closed as quickly as possible. After the abdomen was closed I did the disinvagination of the mass and found that the ileum had swallowed up the appendix, cecum and six inches of the ascending colon, and that I had removed in addition to the appendix, cecum and six inches of colon, eight inches of the ileum. Very much to my surprise and joy the babe made an uneventful recovery, and today is as well as any child.

There is perhaps no etiological factor that will compare in frequency in intestinal obstruction to hernia; and by far the most frequent is inguinal hernia, which becomes strangulated. One might think that a strangulated inguinal hernia can be readily recognized, yet as the following case report of one of my colleagues show, such is not invariably the case. The blood picture in this case is interesting and serves to bring out what I have previously enumerated. Mary White, colored, female, 60 years of age. Family history, irrelevant. Past personal history: About 16 years ago noticed a small lump in right groin, not associated with a pain. Consulted physician, who stated that it was a cyst and of no consequence. The lump remained the same size, neither enlarging nor growing smaller. Present illness: one week ago became ill, unable to make the bowels move. Physician called and numerous treatment instituted, enemas of all sorts given. Slight results were obtained for three days, for the past four days complete obstruction with grave prostration. The usual vomiting, distention, etc. Examination: Essentially negative, except for very marked toxemia, pulse 140, temperature sub-normal, mental condition cloudy, marked abdominal distention, small lump the size of a mandarin in the right groin. This mass was not tender; it felt fairly hard as though it were a semi-solid object. Hernia considered, but finally ruled out. Laboratory findings: On first examination, and before hypodermoclysis of saline and glucose. Blood: Total white count 10,000; differential, polys. 81; urea., 49 mg. per 100 cc. Urine: Albumin two plus, reaction acid four plus, acid one plus, diacetic three plus. Treatment: Glucose 20% 2000 cc. with normal saline, 2000 cc. given by hypodermoclysis and intravenously within the following 24 hrs. In addition enemas, which were totally ineffective. Gastric lavage, nothing by the mouth. The patient's general condition became startlingly better although the obstruction was not in any way lessened. Laboratory:

Blood urea 33 mg. per 100 cc. Total white, 12,000, differential, 80. Operation then performed: Local anesthesia, midline incision, the intestines small and enormously distended. Exploration revealed that obstruction due to right strangulated inguinal hernia. Incision over lump in right groin as for usual hernioplasty. Sac opened, considerable fluid escaped; omentum in poor condition, piece that was questionable removed, constriction at the neck of sac divided, bowel not gangrenous, returned to the abdominal cavity; repair by usual technique; no drainage. Convalescence uneventful.

We find that age plays no part in strangulated hernia as shown by the following case report. Walter Jones, colored, male, age three years, was brought to me by mother with a history of child being ruptured since birth but otherwise past history was negative. On the day previous he had been unable to have a bowel movement in spite of the fact she had given numerous medications, including blackdraught, castoria, and castor oil and some enemas, and that he was suffering a great deal and had been vomiting all day. On examination I found a rather large mass in right inguinal region which was fixed and painful on pressure. I tried to reduce it but without success. I advised mother of the condition and consequences if he was not operated on immediately. She refused saying that "she could get it back." The next morning she brought the child to my office wanting to know if there was not something besides an operation I could do, which I answered in the negative. She finally consented, very reluctantly, and an hour later I operated, doing a Bassini. The sac was opened and the gut, dark in appearance, was exposed along with a great deal of fluid. After using some warm packs for a short time the color came back fairly well and I decided that the circulation was sufficiently re-established to return it to the abdomen as it was. The wound was closed and the child made an uneventful recovery.

Post-operative obstructions are not uncommon, and we meet with them fairly frequently. When we are sure that the obstruction is in a definite location, incision should be made in this area and if possible a collapsed loop of bowel found. If this is impossible we should explore with the finger and find a distended loop, then we can soon locate the obstruction. In these cases it will doubtless require more than the mere separation of the lymph adhesions and enterostomy is of greatest value here. I recall one case of obstruction following drainage of a ruptured appendiceal abscess occurring on the eighth day and I did an ileo-colostomy. B. S., colored, male, age 35. Family history irrelevant; past history, usual diseases of childhood and two previous attack of cramp colic, but as he lived in the country and not being accessible to a doctor did not have one. Tuesday he was seized by a violent cramp in abdomen and vomiting, the pain becoming more severe and was unable to have bowel movement. Suffered all night and next morning caught train for Vicksburg. I saw him about twelve o'clock. Well nourished, strong negro man, with chief complaint of severe pain in abdomen which had gotten markedly better within the past hour. On examination found that he had a great deal of rigidity over right lower abdomen but the whole abdomen was more or less distended. Blood: total white was 18,000, polys. 84%. Operation was advised and right rectus made to find a great deal of fluid and purulent material in abdomen, and finally the appendix was located, having ruptured at the proximal end. There were so many adhesions that it was not deemed advisable to do more than remove the portion that had sloughed off and insert drainage. After a rather stormy convalescence, he apparently was all right. On the eighth day he was again seized with a severe pain, vomiting and unable by repeated enemās, etc., to get an evacuation of bowels. After trying for awhile we decided he had an obstruction probably from

adhesions where the appendix had ruptured and so we opened him up again to find that the ileocecal region was bound down by adhesions, some fecal matter being present, so we decided that the best thing to do was to let it alone and seek some other relief for him. So we did an ileo-colostomy, simply short circuiting the entire area that was bound down. This gave relief and patient made a fairly nice recovery, though the wound drained for some time. However, many of these cases are relieved by simple enterostomy and this procedure is to be advised in most cases. The former belief that after an operation for obstruction, the bowels should always be returned collapsed is a dangerous procedure, and is no doubt responsible for many deaths. We must remember that the intestines can only be emptied by their own peristalsis, and the old method of exploring the abdominal cavity thoroughly in these cases and trying to relieve the distention immediately should be condemned. What we do we should do quickly with the least amount of traumatism possible, as traumatism tends to inhibit peristalsis. As has been pointed out from time to time surgical judgment plays a very great part in the successful management of intestinal obstruction, and as for other procedures in handling the different types of these cases, it must be according to the best judgment of the surgeon. If a type of obstruction presents an acute violent symptom with prostration, weak pulse, and shock, the operation must be done immediately, and the surgical procedure determined after the abdomen is opened. Whatever type the case may be the patient shows certain phenomena already set forth.

The conditions found on opening the abdomen plus other circumstances govern the particular operation indicated, but as I have already enumerated, certain broad principles of treatment apply to all cases. It is by the combination of proper surgery with certain adjuncts, as at times blood

transfusions, that we are enabled to lower our mortality.

SUMMARY.

1. Intestinal obstruction is fairly common. It carries always a high mortality, and if not handled properly, a tragic mortality.

2. We should take advantage of laboratory aid which is definite and which offers information of diagnostic, prognostic, and therapeutic import.

3. It may seem vain repetition that laxatives and purgatives must not be given in acute pains of the abdomen until the cause of that pain becomes definitely established.

4. Sodium chloride has proved its worth in the treatment of the toxemia which accompanies obstruction in the upper alimentary tract. Soda and glucose is to be used in obstructions of the lower tract.

5. Transfusions of blood at times may be the means of reviving what we considered a moribund patient.

6. Surgical judgment plays the leading role, and how much or how little the patient can stand is always a paramount issue.

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DISCUSSION.

Dr. T. W. Holmes (Winona): There is nothing I can add to Dr. Knox's paper—all I wish to do is to stress a few points he made.

With reference to the laboratory aid in diagnosis, that is all right; but I would not lose too much time waiting on the laboratory. The essential thing to remember is that ninety-nine times out of a hundred acute abdominal pain indicates a surgical condition the nature of which it is impossible to tell until we get in. Keeping that in mind, we will catch more of these early cases of intestinal obstruction.

I want to stress the importance of sodium chloride intravenously. It helps a great deal in the treatment of the patient.

With reference to the differentiation of high up obstructions from low obstructions, usually the high up obstructions are acute in character, and the low ones are occasionally chronic, although the early fulminating may be high up.

The doctor spoke of post-operative obstruction. In my judgment the thing that would be the best guide would be pain and distention, and possibly in some cases nausea. If you give a flatus enema and possibly get a little gas the first time and the second time no gas, then that is practically positive evidence that you have an obstruction.

With reference to the two-stage operation in acute obstruction, I think it is the policy of wisdom, depending of course on the condition of the patient, as quickly as possible to go in under local and get that first distended loop and do an enterostomy and be satisfied with that, not try to find the source of the obstruction.

Dr. Sydney W. Johnston (Vicksburg): I do not believe Dr. Knox mentioned the fact that the location of the obstruction has a great deal to do with the treatment and prognosis. Orr and Haden presented a paper at the meeting of the American Association in Dallas last month in which they reported results in duodenal and jejunal obstruction in dogs and the results of trying to build up the chlorides of the blood by jejunostomy. All the dogs died that were treated and if I remember correctly death occurred earlier where jejunostomy was employed than where simple palliative measures were used.

This leads us to believe that in obstructions in the duodenum or jejunum enterostomy will do no good. A radical operation will have to be done. The same results have been obtained and reported by Walters of the Mayo Clinic.

Dr. W. A. Bryan (Nashville, Tennessee): The first point is that there is a definite relation between the results of the operation and the time that elapses between the obstruction and the operation. That is pretty definitely settled, and the point I wish to emphasize is that once we suspect, or are pretty reasonably sure of intestinal obstruction, then is the time to operate. In other words, the less delay the better off we are.

These different types of operation I am not interested in. We have seen these things happen, once in the hands of a master surgeon. I do not think it should change our practice. Every body says, and I agree, that we should go in, do what we are going to do, and get out. Do not shock the patient, do not allow infection, but be sure to do all you should while you are in there. I saw a case that Dr. Clement operated on, and when he got inside he found a loop over a band; he cut the band and dropped the loop and said the patient would get well. The patient died without relief of symptoms, and at postmortem there was another loop high up in the abdomen and another band just like the first one. In doing any operation I look over the abdomen to see what is going on elsewhere, and in case of large intestinal obstruction while I do not feel warranted in doing extensive exploration, still I think it should be done to a certain degree.

I have been trying for a long time to find out something. How many of you ever operated a case of intestinal obstruction and found no obstruction? Hold up your hands. There are two or three. I have done it several times. There is a condition known as enterospasm. It is a cramp of the gut, as it is usually diagnosed, and there is intestinal obstruction, or appendicitis, or some other acute intestinal condition. The patient has the symptoms of intestinal obstruction, but we should not make up our minds too quickly. He has vomiting, and often stercoraceous vomiting; but these patients do not in any instance I have seen have distention. One of these cases had been going on a week, she had no distention, she was vomiting, she had signs of intestinal obstruction—I could not get anything through her bowels and she could not retain food or water. Heavy doses of protein will in most cases make the differentiation. Another point, it is very embarrassing to diagnose any patient as intestinal obstruction and then get

in there and say—where is it? He has locked bowel, but where is the lock?

I have treated eight or ten of these cases and I have gotten around more than half of them without operation. These are not all mechanical obstructions, and if we give the patient a dose or two of protein we can recognize it.

Dr. E. M. Holder (Memphis, Tennessee): I would like to ask Dr. Bryan if he ever used diathermy in those cases to keep the intestinal contents hot. Crile speaks of it particularly in operations on the liver to take care of the shock. He is using it but he has not tabulated his work. That will probably be worth something hereafter in that branch of surgery—it keeps the intestinal contents normally warm during the operation.

These spastic guts Dr. Bryan speaks of are unusual and are hard to diagnose except by bismuth and barium examination, and when a man is vomiting you cannot make that kind of diagnosis.

Dr. W. W. Crawford (Hattiesburg): In connection with the statement made by Dr. Bryan with reference to acute cases in which the abdomen is opened without actual evidence of obstruction being encountered, I wish to call attention to the fact that acidosis, particularly in children, will simulate the situation described. I have seen more than one case in which all these outward symptoms of obstruction were apparent, and on examination of the urine it was found loaded with acetone—no indican, or very limited, but on trying to neutralize the acetonuria we obtained very gratifying results. You see in many cases of acidosis the exact clinical picture, even to the abdominal pain, suggested obstruction, but yet no obstruction. I remember Dr. Matas visiting me at my hospital some years ago and we had a woman admitted during his visit who gave just such a history, and yet it was not an operative case because the condition passed away, and I very much appreciated what he had to say.

I want particularly to call attention to a case I saw last month, a negro child about five months old, quite dehydrated, and I thought it was a case of congenital pyloric stenosis. We filled the stomach with barium, but when we used the fluoroscope we saw nothing could pass out of the stomach. The child was in a serious condition, so we gave a hypodermoclysis one night and the next morning proceeded to operate. I went in to do an operation for pyloric stenosis, but I did not feel the typical little tumor that is often encountered in these cases. I opened the abdomen, located the pyloric end of the stomach, but found

no obstruction. Then I cast about for the cause of the trouble, and to my surprise I found a piece of the transverse colon that had passed in behind the duodenum and was sticking up above it through a little cylindrical opening. During the period of months which the child had lived it occasionally had more decided symptoms of obstruction than at others. Of course the actual obstruction of the stomach was exaggerated, and because of the pressure of gas in the bowel the obstruction was complete. Occasionally it would get relief by disappearance of gas and would take a small amount of food. Unfortunately, we lost the child, but I report it as an interesting form of intestinal obstruction.

Dr. W. H. Parsons (Vicksburg): This is one of the most serious conditions with which we come in contact. I have been much impressed by the mortality figures Dr. Knox has quoted. Certain it is that in the hands of the average surgeon the mortality is great, and even in the hands of the expert, as Dr. Bryan has noted, the mortality is high.

It would seem that if the fundamental principles that the essayist has stressed, were observed this tragic mortality might be reduced. I believe Dr. Knox is entirely correct in his advocacy of palliative operation only, in the more desperate cases. Of course it is manifestly impossible to do a palliative operation of the nature of an enterostomy in obstruction of the duodenum for the anatomy of the part would scarce permit and certainly not recommend it.

Whereas my experience with these cases, both in years and numbers, has been limited, it has been sufficient to bring my ideas in thorough accord with the tenor of Dr. Knox's excellent paper.

Dr. I. C. Knox (closing): One of the reasons for reading this paper is the practical consideration of the things to which we must give attention, and the things we must eliminate in a case of suspected obstruction.

One point I intended to bring out and did not, is that an intestine can only empty itself satisfactorily by its own peristalsis, and any attempt at repeated or prolonged examination of the abdomen is to be condemned. An enterostomy, done quickly and under local anesthetic, with as little traumatism as possible, is to be advised, and with no extensive exploratory operation inside the abdomen. The patient must be considered—his safety is the first consideration.

REAL AND ALLEGED DANGERS OF THE PREVENTION AND TREAT- MENT OF DIPHTHERIA WITH TOXIN-ANTITOXIN AND ANTITOXIN.*

L. B. HUDSON, M. D.,

HATTIESBURG, MISS.

During my third year at Tulane, in 1903, the late Prof. Jno. B. Elliott, in presenting Erlich side chain theory of immunity, ventured the opinion, that, within two, or three decades, the physician would treat his patients more by prevention than by curative means. He pictured the physician of the future, with his caddie, carrying his supplies of vaccines, serums and antitoxins, ready for any infection, to prevent rather than cure. When we review the advances made since Jenner introduced smallpox vaccine, Pasteur rabies prevention, typhoid, diphtheria, scarlet fever and others, truly our beloved professor's dream was prophetic.

In presenting this paper, I am actuated by a desire to be of service. Not a single thought or fact presented, do I claim to be original. My experience with the prevention and treatment of diphtheria is entirely too limited to be of statistical value. But I conceived the idea that I could assemble the opinions and experience of the leading talent along this line. Hence, March 1, 1926, I addressed the following letter to some 82 members of the American Pediatric Society, very kindly furnished me by Dr. W. W. Butterworth of New Orleans; I also addressed a questionnaire to each. Herewith copy of letter:

"Our community has been visited this fall with more diphtheria than usual. People have been reluctant to immunize their children with toxin-antitoxin. Many people are afraid of toxin-antitoxin, and many are reluctant to give exposed children in the family of a diphtheritic protection with antitoxin.

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

"On investigation I find the answer is this: some physicians are telling their families, that if a child, exposed to diphtheria, is given a prophylactic dose of antitoxin, and later (weeks, months, or years) develops the disease, that it is dangerous to give antitoxin as a curative on account of acquired anaphylaxis; some even making the positive statement that antitoxin will kill a child who has previously had the serum.

"As to using the Schick test to discover the natural immunes, and the use of toxin-antitoxin as a preventive, not so much prejudice exists, and I am prone to believe that lack of investigation of this procedure is responsible rather than fear of the alleged dangers.

"It seems needless to state that I am a warm advocate of antitoxin as an immediate preventive, toxin-antitoxin as a general prophylactic, and Schick testing where practicable.

"My own dear children have been treated accordingly, and I certainly advocate desensitizing by gradual administration where known sensitiveness exists, and in all cases precede full dose by administering few drops to determine if there is any sensitiveness.

"For the sake of our community, and possibly state, I am contemplating presenting a paper entitled, 'Real and Alleged Dangers of the Prevention and Treatment of Diphtheria with Toxin-antitoxin and Antitoxin,' before the Mississippi Medical Association in Jackson, in May, and I would appreciate a reply from you to the enclosed questionnaire."

Quite a number in answering referred me to Drs. Wm. H. Park and Abraham Zingher of the New York City Department of Health. I then wrote Drs. Park and Zingher the same letter and sent them the same questionnaire. To date I have received personal replies twenty-four, answers to questionnaire sixty-seven.

In quoting questionnaire I will present each question separately and in order, with analysis of each.

1. If a child is given an immunizing dose of antitoxin and later (weeks, months, or years) for immunizing or curative purposes receives antitoxin or any serum, what

amount of danger do you consider exists on account of previous administration?

15 replied, none.

24 replied, very little.

1 replied, probably none.

7 replied, no real danger, may have serum sickness.

15 replied, none, if desensitized.

2 advised to always inquire as to history of asthma or sensitiveness to horse serum.

3 who unqualifiedly state that only danger is in first dose.

2. How many deaths (if any) in your experience or knowledge have resulted from toxin-antitoxin as a preventive?

58 replied, none.

1 reported 2 deaths in his experience.

Aggregate reported in literature 18.

8 did not reply to this question.

In answer to this question Dr. Isaac A. Abt says:

"I know of two cases where death occurred. One was due to unskillful and bad technique where local infection occurred. The other was due probably to deteriorated toxin-antitoxin."

3. How many deaths in all have been reported, to your knowledge, from the use of antitoxin?

63 replied, none.

3 reported deaths in their experience.

Number of deaths reported, 4.

1 no reply.

4. In the hundreds of thousands of doses of antitoxin used annually in the United States, would not this many deaths have been possible from status lymphaticus or other causes?

35 reported, yes.

16 reported, positive opinion that deaths do occur from antitoxin.

5 reported, don't know.

11 no reply.

Thus it will be seen that to question No. 1, 62 out of 67 in substance advised to disregard the alleged dangers, but advised caution by careful history taking and desensitizing known sensitive children. Of the 67 only one reported deaths in their experience from toxin-antitoxin. Total deaths

in experience 2; aggregate in literature, 8 at Dallas, Texas, 8 at Vienna; total 18. The deaths at Dallas, Texas and Vienna are fully explained by Dr. Park of New York in his letter.

Just here it seems appropriate to quote letters received from Drs. Park and Zingher of the Bureau of Laboratories of New York City, Department of Health.

Dr. Park writes:

"I make the following replies to your questions:

"(1) There is absolutely no danger because of having had previously an immunizing dose of antitoxin. There may, however, be an acceleration of the serum sickness so that a patient may develop a rash within a few minutes rather than a few days with the usual accompanying symptoms. All the deaths I know about have come from first injections.

"(2) The only deaths I know about occurred in Dallas, Texas, and these were due to a mistake in the Biological plant sending the wrong mixture, and in Vienna where apparently straight toxin was sent by mistake. 8 deaths in each place.

"(3) In New York City one death has occurred for about every 80,000 persons injected.

"(4) These few deaths have occurred always in cases of status lymphaticus. It is true that these persons would have died in all probability from some other slight illness in the course of a few years but the immediate cause of death was injection of the serum.

"When we remember that against these few deaths, four or five in number, the diphtheria mortality has been reduced from 150 per 100,000 to about 9 it is hard to believe that people can seriously consider the probable loss of a life by a remedy which at the same time saves thousands.

"A question you do not ask is more or less coming up is whether toxin-antitoxin sensitizes. I have made very careful observation and find that it does produce an effect but it is so slight it cannot be measured.

Very sincerely,

"(Signed) WM. H. PARK."

Dr. Zingher writes:

"The following are replies to your questions:

"(1) There is practically no danger if the second dose of antitoxin or other therapeutic serum is given subcutaneously or intramuscularly. One has to be somewhat more cautious in injecting the second dose intravenously, as a few cases have been reported in which the intravenously administered second dose was followed by rather severe symptoms.

"(2) The deaths reported from the use of toxin-antitoxin in Dallas were due I believe to an exceedingly toxic preparation prepared by a commercial laboratory. The deaths in an institution near Vienna were due, according to a newspaper report, to the use of toxin by mistake in place of toxin-antitoxin.

"(3) The deaths reported from the use of antitoxin have occurred in about one out of 70,000 injected persons; in about one out of 20,000 alarming symptoms developed. (Park.)

"(4) It is quite possible that the deaths were mostly in those suffering from status lymphaticus or bronchial asthma.

"Cordially yours,

"(Signed) A. ZINGHER,

"Assistant Director,

"Bureau of Laboratories."

Of the 67, 64 reported no deaths from antitoxin, whether used as first dose, or repeated. Of the other three, Dr. C. F. Gels-ton, San Francisco, reported two deaths, and Dr. L. T. Royster, University of Virginia, reported one, and one was reported from New York City. Two reported knowing of a death in the experience of a friend.

To the last question 34 reported yes; 16 reported positive opinion that death may occur from anaphylaxis, and 5 did not know.

Time does not permit me to reproduce each and every name of the leading pediatricians who so willingly answered my letter and filled out questionnaire, or both, but I would feel amiss if I failed to mention certain outstanding authorities as Park, Zingher, Schick, Doull, Hess, Abt, Helmholtz, Chapin, DeBuys, Butterworth, who practically agreed in substance with my stand. I would not have you think that I

do not recognize that there is such a condition as anaphylaxis, but my point is, is the danger at all comparable to the risk in not using these protective agents. I shall here refer to an article by James A. Doull and Roy Sandige, published in 1924. See reprint No. 901 from the Public Health Reports—Washington.

"The question as to whether or not to give prophylactic antitoxin would seem to resolve itself into this: Does the family or institutional contact of a case of diphtheria run a greater risk of death from the prophylactic injection of antitoxin or from diphtheria in default of this prophylaxis?

The sensitizing effect of an injection of horse serum is well known, and in certain laboratory animals second injections, after a certain period of time, will produce fatal anaphylaxis. In man, however, although there may be a severe immediate reaction and a hastened appearance of the ordinary symptoms of serum sickness, death following a second injection is extremely rare. In fact, Longcope (1920) in speaking of the immediate general reaction which may follow a second injection of horse serum, states that "the immediate reaction, although it may be severe, has, as far as the statistics of Park and Nemmser and Cuno show, never caused death when the inoculation is made subcutaneous." More recently, however, Dean (1922) has reported the case of a soldier who died shortly after receiving a fourth dose of antitetanic serum.

On the other hand, certain individuals seem to have a natural hypersensitiveness or idiosyncrasy to horse serum, and it is among these that the cases of collapse and of death following a primary injection of antitoxin have occurred. In some instances in which autopsies have been obtained great enlargement of the thymus gland have been found, and it has been considered that death was due to "status lymphaticus." In many cases, also, there is a history of asthma or other respiratory disease which in some

instances in children may have been attributable to enlargement of the thymus. In the particular case, to which Hitchens (1923) referred, and which was reported by Sumner (1923) the child's "eyes would become inflamed and her nose would run whenever she took a drive behind horses."

The total number of such deaths does not suffice to determine the risk at issue, as the number of individuals who have received antitoxin is, of course, unknown. From New York City, however, valuable records are available. Park (1923) states that among 105,000 persons given treatment or immunizing injections of diphtheria antitoxin by inspectors of the health department of New York City there were only two deaths attributable to the injections. It is not stated how many of these were therapeutic and how many prophylactic injections, but presumably the great majority were given for prophylactic purposes, as it is stated elsewhere that in the years 1906-1912 77,882 contacts in New York City received immunizing injections. In addition, Park reports that among 30,000 hospitalized cases of diphtheria and 16,000 cases of scarlet fever given antitoxin there had been no deaths from the injections. This record, which is probably the most reliable statistical evidence available, shows one death among approximately 75,000 persons treated.

In summarizing the literature it appears that about 10% of family contacts of 10 years or under, who are not given prophylactic antitoxin, subsequently develop diphtheria within 30 days, versus 1.2% attacked who were given prophylactic antitoxin. A difference of 8.8% in favor of children exposed, under 10 years of age, contracting the disease.

CONCLUSIONS.

First, the mortality from diphtheria still remains around 10%.

Second, 10% of exposed children under 10 years of age, without prophylaxis contract the disease.

Third, the susceptibility of exposed children under 10 years being 10% and the death rate from diphtheria being 10%, therefore, it is perfectly logical to conclude that of 100 children, exposed and unprotected, one is going to be lost.

Fourth, the best available records show a mortality from antitoxin of 1 in 80,000 injections of antitoxin.

Fifth, the very latest information shows that while some reports of death from toxin-antitoxin have appeared, this was before the product was standardized.

Now, while admitting some slight reaction in sensitive children, toxin-antitoxin is not only safe, but it is wise to use it in any child from 6 months to 6 years of age. Schick test from 6 to 12 years, protect all Schick positive children in this group and by all means do not hesitate to protect immediately, by prophylactic dose of antitoxin, all exposed children under 10 years of age. Desensitize if history warrants, but give our children the protection they are entitled to in this enlightened age.

As Charles Hendee Smith of New York says in answer to my questionnaire, "Any community which does not immunize with toxin-antitoxin is living in the Dark Ages."

DISCUSSION.

Dr. Felix J. Underwood (Jackson): In my judgment no more important paper has been brought before this Association than the one you have just listened to.

I thought it might interest the members of this Association to have an account of what has been done in the full-time county health departments with reference to this matter. The number of complete Schick tests and the number of toxin-antitoxin administrations made in the counties having full health departments were as follows:

	Schick Test	Toxin-antitoxin
1922	3835	797
1923	2754	1421
1924	1187	1147
1925	5930	6746
1926 (to March 31)	2658	1982
	<hr/> 16364	<hr/> 32093

During the administration of this material for the prevention of diphtheria trouble was encountered in only one county. This was in the spring of 1922, in Marshall County. The director, who was an exceptionally well trained man, had some difficulty with the Schick test. As a result of an investigation the conclusion was drawn that the trouble was with the material sent out by the biological house. This trouble consisted mainly in the development of necrotic areas, and no fatalities resulted. As a result of this work and the work of the medical profession in this State, we have had a downward trend in cases and deaths.

	Diphtheria Cases	Deaths
1921	3095	364
1922	2387	296
1923	1766	173
1924	1217	89

In age groups, children under five years, the deaths per 100 cases were 14.1 per cent; five to nine years, 6.4 per cent; ten to fourteen years, 4 per cent; fifteen to nineteen years, 3.3 per cent, and under one year the death rate was 15.3 per cent.

Dr. W. D. Beacham (Hattiesburg): I believe toxin-antitoxin is as near a positive preventive of diphtheria as any preventive medicine we have, and if it were used we could stamp diphtheria out of the State of Mississippi. Give the children from six months to one year toxin-antitoxin. It is a simple procedure, any doctor can do it in a few minutes, and he owes it to his community.

Dr. Underwood said they only had trouble in Marshall County, and that is true as far as the biological part is concerned, but in Forest County we secured an ample appropriation to give the children the Schick test, and then to my surprise about one-third of the profession rose up in arms against the health department doing this, and said to the mothers: "Do not have your children given toxin-antitoxin; if you do they will have diphtheria." Dr. Hudson rallied to our support and brought his own child to the clinic and I gave it the Schick test. As a result of the antagonism of some of our local doctors we had 35 cases of diphtheria in Forest County last fall, and two deaths. Do not let that happen in your county. It is easy to control. All you have to do is to give the Schick test or any other test and you will know whether they will ever have diphtheria, and you can control diphtheria. It is so easily done if we will only co-operate and put this thing over.

REMARKS ON SOME PATHOLOGICAL CONDITIONS.*

WILLIS P. BUTLER, M. D.,
SHREVEPORT, LA.

The surgery of today is based on pathology rather than on empiricism, as was the case not many years ago. A certain amount of first-hand knowledge of pathology is the only safe guide for the surgeon no matter how skillful a mechanical operator he may be. He should be something of a morbid anatomist also and be familiar with the gross appearance of diseased tissues.

While the microscopic side of pathology is of extreme importance for diagnosis or confirmation of gross diagnosis, the surgeon should, nevertheless, be able to recognize from the cut surface most cases of malignancy. A sound surgical judgment must be based on the surgeon's comprehension of pathology.

The essentials of pathology must be gotten in the autopsy room, here the disease processes are seen as a whole. A tumor of the liver is found to be secondary to cancer of the rectum; the spread of cancer can be traced from the stomach over the peritoneum to the ovary; an infarct of the lung is seen to be due to thrombosis of the pelvic veins; a cerebral abscess secondary to a bronchiectasis, sinusitis, etc.

The pathology of the past has been built almost entirely on the findings of the autopsy room and the medicine and surgery of today bear the indelible imprint of that origin, and yet such a method has its shortcomings. The dead house reveals only the end of the process, but surgery and medicine are concerned more and more with the beginning rather than the end, for in the beginning there is hope in most cases. We must try to learn from the autopsy all we can and reconstruct or gain an idea of the beginning. A breast or a uterus infiltrated

with cancer or a kidney or knee joint disintegrated with tuberculosis are interesting and important, but convey little hint of the beginning appearance of the process. There are many conditions common to every-day practice that are seldom seen at the autopsy because they rarely prove fatal but many can be studied at autopsy, as incidental to some fatal condition; but better still they should be studied when possible on the operating table in the living subject. The frequency of duodenal ulcer; the appearance of strawberry gall bladder; the much debated relationship of gastric ulcer and gastric cancer and of chronic mastitis to cancer of the breast; the undoubted relationship of tuberculous salpingitis to tuberculous peritonitis, all these are best observed on the operating table. The parts of the body most exposed are the most frequent sites of tumors, such as mouth, stomach, rectum, uterus, and breast are frequent sites for cancer. It is curious also to note that tumors of ciliated epithelium are rare, and in view of the fact that we know so little that is definite about the cause of tumors, we naturally wonder if this particular kind of epithelium is better able to protect itself.

While we know little that is of definite value concerning the beginning of tumors, we realize the importance of diagnosing as early as possible the beginning malignant condition. A process beginning as an inflammatory hyperplasia may gradually assume neoplastic properties. In goitre, hypertrophic prostatitis, in glandular endometritis and in chronic mastitis and in Hodgkins' granuloma are sometimes seen transformations of a functional or inflammatory hyperplasia into a neoplasm. Here the continued effect of an irritant seems to obtain, and we have also the question of momentum of growth. Here it seems that we have a true precancerous condition of wide occurrence. The tissues and cells are in a state of overgrowth intermediate between inflammatory and neoplastic hyperplasia and are often followed by genuine

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

malignant tumors, as manifested by the cells increasing in size and in number, becoming displaced from natural connections and losing their polarity and invading and destroying the surrounding tissues. Microscopically they exhibit loss of elastic tissue, have a lymphocytic exudate, fraying of the edges of the epithelium and hyaline changes of collagen. Even though this is true, we must not lose sight of the fact that malignant tumors grow from their own resources and from the same original cells, not transforming normal cells into malignant ones by contact.

Other than clinically, it is generally not so hard to draw an accurate distinction between malignant and benign tumors, it generally being considered that a tumor is malignant which exhibits infiltrative growth, local destructive properties, recurrence after removal, metastasis, local interference with function and general toxic action of absorbed tumor products. Regarding the degree of malignancy, it is generally recognized that the more the tumor cells vary in type from the tissue in which they originate, the more malignant it is. The presence of epithelial pearls does not always mean cancer but only means that it is an epithelial tissue. As to a benign tumor being transformed into a malignant tumor, while it can occur, it is a very rare occurrence in the history of tumors and is based chiefly upon the observation of uterine myomas, and it has been shown that benign tumors are much less liable to this change of type than are the normal tissues to develop malignancy. A tumor process once established at a certain momentum tends to maintain it throughout its course.

There have been many reasons advanced for the emaciation and cachexia often seen in certain malignant conditions. Inanition, mental depression and worry concerning the disease leading to distaste of food, are important factors. There seems to be no specific toxic destruction of protein tissue

in cancer and we know that there is no special toxin or poison secreted by cancer cells and leading to cachexia. In fact there is no specific "cancer cell" but rather a form or state assumed by some epithelial cells. The shape of the cell alone must never be taken as a criterion by which to judge the genesis of a tumor. Hence there is no such thing as a "carcinoma cell" or a "sarcoma cell"; the type of a tumor, whether it be epithelial, connective-tissue, or mixed, can be determined positively only by the arrangement of the cells with regard to one another. For this reason extreme caution is necessary in giving an opinion on the character of a tumor from an examination of isolated tumor-cells. In the intestinal canal there may be the factor of mechanical obstruction to interfere with digestion and absorption, or perhaps an ulceration of a carcinoma of the stomach interfering with nutrition. In passing, I might state that I believe it is rare for a stomach ulcer to become cancerous, rather it is the other way, first a cancer then ulceration.

As we know, cancer metastasizes chiefly through the lymph route, and the nodes in the vicinity frequently show secondary growths. Frequently we hear the surgeon refer to lymph nodes or nodules as glands, when strictly speaking we know this is not correct. It is an interesting fact that the implantation of metastases is preceded by a period of preparation of the node. For weeks or months before actual invasion, the node may be swollen and new nodes may develop in the course of the vessel, some of which may be small and fibrous and permit the cancer cells to pass through or around them and lodge in a more distant group of nodes. The comparative immunity of lymphatics against invasion of sarcoma is probably due to the greater local fixation of sarcoma cells as compared to the more movable epithelial cells. There are a few benign conditions which may form metastases such as thyroid adenoma, hydatid mole and placenta and chondroma,

and the secondary tumor may be benign or malignant. The preservation of structural type in metastatic tumors is often remarkable, yet there is usually more anaplasia and more rapid growth, especially after operation. When tumors recur after operation, they are frequently of a different kind or type.

There are many theories as to the cause of tumors, Cohnheim believed that tumors developed from masses of simple or complex tissues implanted during the embryonal development. Remak and Thiersch gave us the idea of cell autonomy, then followed the conception of tissue tension to account for the limitless growth of cells. Ribbert says there is no unusual power of proliferation in cancer cells, that freed from the restraints of tissue tension, they exhibit the power of growth with which they are endowed from the ovum, and Weigert and Roux say that they cannot be increased by any external stimulant. Billroth says "without previous chronic inflammation, cancer does not exist," and so chronic irritation is established as a necessary factor. We know that a tumor is an autonomous new growth of tissue and that the cells proliferate without control and are subservient to none of the natural laws governing the body. We must remember that a cancer's continued growth is very different from its conception and also it is by no means certain that malignant cells are more viable than normal cells. It has been contended that the cells lose the power to work and gain the power to grow. Nothing about cancer is more generally accepted than its hereditary nature and nothing is less satisfactorily proven. As to the parasitic or germ theory of cancer, time does not permit me to discuss this here.

The traumatism that precedes a cancer is usually a repeated chronic irritation, while that preceding sarcoma is caused by a single blow. It is possible that preceding the injury there may be a benign or small malignant tumor in the part injured.

Probably only a few tumors are the direct sequel of trauma, but a slowly growing cancer nodule in a chronic mastitis may be accelerated by a blow when the injury alone seems to be the only cause.

As to treatment of malignant tumors, I will not say much. Operation when performed should be as early as possible. X-ray and radium are valuable in certain tumors, perhaps not being so good in any as in rodent ulcer, which is considered to be a basal cell type of carcinoma and which usually grows above the level of the upper lip. This method of treatment is good also in carcinoma of the cervix. Radium, perhaps, is best in angioma (carbon dioxide snow not being used any more). These remedies, of course, should be tried where there is a probability of help. As a rule, the X-ray is not applicable in a tumor containing keratin. The method of treatment, however, should best be decided by the surgeon after careful study of the case and perhaps after consultation with the pathologist and radiologist.

The subject of bone tumors is now receiving special attention due to the "Registry of Bone Sarcoma" which was initiated and has been conducted for five years by Dr. Codman of Boston as an activity of the American College of Surgeons. About two hundred individuals have registered cases of bone sarcoma in this first collection of some six hundred and fifty supposed cases. A standard classification has been used by Dr. Codman and his committee composed of himself and Dr. James Ewing and J. C. Bloodgood. One of the main objects of the Registry is to get a uniform classification or nomenclature which roentgenologists, clinicians and pathologists can use in order to have a mutual understanding of the clinical entities which are referred to. Briefly this nomenclature is: (1) Metastatic tumors of the bone. (2) Periosteal fibrosarcoma. (3) Osteogenic tumors—benign and malignant. (4) Inflammatory conditions. (5) Benign giant cell tumors.

- (6) Angioma (benign and malignant).
 (7) Ewing's tumor. (8) Myeloma and Borderlines.

When we realize that there are variations and grades in sarcoma and that all clinically so-called bone sarcomas are not malignant tumors, perhaps fewer limbs will be sacrificed; and on the other hand, when we can detect and diagnose true malignant types of Osteogenic Sarcoma and institute early and proper treatment, perhaps more limbs and lives will be saved. From the microscopical viewpoint, as pointed out by Codman, we can feel pretty sure of the following five points:

1. The finding of numerous mitoses in a bone tumor does not necessarily indicate osteogenic sarcoma, but *absence* or *infrequency* of *mitotic figures* should arouse the suspicion that the case is not one of osteogenic sarcoma.

2. Any bone tumor which does not show *pleomorphism* is probably not an osteogenic sarcoma.

3. *Tumor giant cells*: (not universal) but their presence in an osteogenic tumor is a very reliable sign of malignancy, and their absence need not make one suspicious either of the malignancy of the tumor or its place in the osteogenic series.

4. *Differentiation*: In an osteogenic tumor very complete differentiation or almost no differentiation is better than incomplete differentiation, and the evidence of quite complete differentiation should make us suspect that the case is not osteogenic sarcoma.

5. *Vascular arrangement*: Every osteogenic sarcoma shows tumor vessels and a tumor which does not show them in several sections is not an osteogenic sarcoma.

About twenty cases have been worked up for the Registry by Drs. Guy Caldwell, S. C. Barrow of Shreveport and myself, and with Dr. Caldwell's help we will show slides of some of these cases.

DISCUSSION.

Dr. A. A. Herold (Shreveport): In opening the discussion on this interesting talk, I do not care to speak of the details but to recall that about twelve years ago I was chairman of this same section and in those days we read Chairmen's Addresses. My subject at that time was "Pathology as the Basis of Scientific Medicine," and this talk today just illustrates how important it is to have your pathology right.

You all know that in the curriculum of the medical colleges you get your bacteriology and pathology before you get your practice in medicine. You get your surgical pathology before you get your regional surgery, showing that it is recognized in the colleges that pathology is the basis of scientific medicine. That just emphasizes the importance of this section of the Society. I make a plea for more papers of this kind on pathology, the clinical man working in conjunction with the laboratory man and preparing papers on the order of symposia of this Society. I think they are highly interesting and will be of great value and benefit in the future. (Applause.)

Dr. Marvin Cappel (Alexandria): We readily appreciate pathology as the basis of scientific medicine. In the past we relied largely upon our findings in the autopsy room. That was a great deal of benefit to those who were left behind but it didn't help that individual much during our time of administration of medical aid.

It is true that we rely today largely upon our pathological specimens and upon our X-ray findings. It is very essential that we do in the treatment and preservation of tissue of many of our patients. It is conceded that it is necessary for the surgeon to have a comprehensive knowledge of the histology and the pathology of the tissue which is involved. We must not overlook the findings in the postmortem or the autopsy room. That is the point that I particularly want to stress.

It is very interesting and very necessary where possible that we verify our X-ray and pathological findings in the autopsy room. Many of us in the country parishes seem to think that we have not access to this privilege. Thanks to some of our past legislation we have access to perform an autopsy upon any subject where a diagnosis has not been made, and my plea is for more autopsies for the purpose of making a definite diagnosis, not for the good that it does the deceased but for the good that we reap in the future; more particularly for the purpose of rendering a correct diagnosis upon that death certificate which is filed in the Bureau of our Vital Statistics and may be referred to many times in the future for the benefit of those who are left behind. My plea is for those

in the country to avail themselves more of the opportunity of performing autopsies on cases where they are not able to make a definite diagnosis. (Applause.)

Dr. F. M. Johns (New Orleans): A good many doctors look upon a section report as being the last and final word, whereas most of us know that tissue diagnosis is often merely an opinion. Sections of these tumors, for instance, have been passed through forty or fifty laboratories, each one adding to the diagnosis, correcting it or checking it, and which serves the purpose of educating the doctor as well more properly classifying the tumor.

I also look upon the pathologic removal as being a part of the patient's property. Not only is the pathological diagnosis the property of the physician who refers the patient to the laboratory, but it is often extremely necessary in the future consideration of the patient himself. How often, for instance, does a case come to be questioned where a doctor has removed a tumor from the patient and made no mention of it, no section of it or record of it, and the patient has never even been told of the growth that was removed. I think these things that are altered or removed by surgeons should have definite record made of them and the patient informed exactly as to the proper method of referring back to such information at any subsequent time. In this connection the sarcoma registry is a step in the right direction.

Dr. L. A. Myers (Alexandria): As to the microscopical side of clinical pathology, Dr. Butler mentioned the fact that we have a great variance in nomenclature along pathological lines. Most of the stress has been laid upon large and lengthy names that had really no meaning or pertained little to the clinical significance that would help the patient. I think there is getting to be a little bit better understanding along that line. Dr. Broders has a classification where he tries to grade the degree of malignancy of the epithelial tumors, and I think that is a very nice thing. It seems as though the clinicians should know something about the degree of malignancy rather than knowing something about the length of name.

Our bone tumors is something that has not been worked out quite to that extent, but I think that we will come to the problem of whether or not the tumor is very malignant or partially benign. (Applause.)

Dr. Butler (inclosing): I wish to thank you for the interest shown in the discussion and I want to make a plea for more routine examinations of tissues. It is a routine in our institution in Shreveport where every tissue removed at operation is

sent to the pathological laboratory, and it is not surprising to frequently find conditions that were not suspected at all by the surgeon. Even in the routine removal of the appendix, for instance, you may find conditions not suspected at operation.

The next thing is a plea for more autopsies and also to get the doctors to attend the autopsies; that is, the doctor who is interested in the case to attend the autopsy and let us all benefit by it together. In Shreveport Hospital we have routine autopsies on most of the cases, and I am pleased to say that the people have become better educated to it and they are more willing to have autopsies. In a good many cases they are ordered, as Dr. Cappel mentioned a while ago, in an official way through the coroner's office.

The next thing that I think of is the importance of diagnosis as brought out, distinguishing between malignant and benign tumors. For instance, the benign, giant-cell sarcoma. Many limbs have been sacrificed, I think, by diagnosis of sarcoma that was of the benign, giant-cell kind.

Another thing that I would like to insist upon is to have an X-ray made more frequently in bone tumors, and particularly before an operation that an X-ray be made of the chest as we know that is the most usual site of metastasis of bone tumors. Surely if it has already metastasized to the chest, there is no use in sacrificing the limb; let them have it for the few remaining months of their life.

The next thing is in regard to the Registry. I think one of the most forward steps made by the American College of Surgeons is the establishment of the Registry with a uniform nomenclature. If you get a report from one place and one from another, they may both mean the same thing but have used different terms. I would like to ask all of you who have an opportunity to read Dr. Codman's article in the "Surgery, Gynecology and Obstetrics" for March to do so for it is well worth while and enlightening to all of us. (Applause.)

Dr. Caldwell: Mr. Chairman, I have no remarks to make except that I think if anyone who will try to run up a series of cases as this one has been run up, in order to report it, will profit more from it than anybody else. It is one of the most helpful things I ever attempted to do, also one of the most interesting things. It brings out a great many points in your work and the work of others. The work here I think was particularly nice in that everybody co-operated. Every physician in Shreveport who had a case of this nature contributed the case and the laboratories contributed the data. It made it very interesting to work it up to report on it.

COMPLICATIONS OF PARA-NASAL SINUS DISEASES IN INFANTS AND CHILDREN.

D. C. MONTGOMERY, M. D.,
GREENVILLE, MISS.

Much has been written about the above condition during the past few years. Many careful observers have spent considerable time and pains in research work along this line, and have given the benefit of their work from various viewpoints according to whether the observer was an Ophthalmologist, Otolaryngologist, Pediatrician, Dermatologist, etc.

In preparing this paper I have endeavored to study the question from the viewpoint of the general practitioner, and to you, as such, explain the signs, symptoms and complications, for in the large majority of cases you are the first to be consulted. The cause of many obscure conditions which try the souls of all of us is found in this location, and every one of us should have a working knowledge of the pathology present, to enable us in these cases to make a correct diagnosis or at least to suspect the condition present and call in the proper consultant. Many of these children come to you not because of any nasal disturbance, but because of some complication very remote from the original focus of infection, such as pyelitis, gastrointestinal disturbances, etc. These conditions were treated routinely by you without determining the underlying cause, and until recent years very little consideration was given the nasal sinuses except in adults.

The question of the diagnosis and treatment of sinus disease in infants and young children has become a very important one. For the past three or four years it has been steadily on the increase. Either there are many more cases than in the past, or we are becoming better observers, and much more careful in our examinations. However, whatever the cause may be we are certainly seeing many more cases of

sinus disease each year. Since the influenza epidemic of 1918 these cases are becoming increasingly common. Its results are often very disastrous causing death, invalidism, mental deficiency, etc.

I do not intend to go into the anatomy and pathology of this condition but because of its importance in the explanation of certain obscure complications, I shall outline for you the lymphatic drainage as worked out so carefully by Mullins.

He has shown that the lymphatic drainage from the sinuses is by way of the submaxillary and deep cervical nodes through the cervical lymph ducts, through the great veins, right side of the heart the pulmonary artery to the lungs.

For purposes of discussion these cases can be divided into suppurative, non-suppurative, acute and sub-acute or chronic.

The symptoms of the acute form are prominent and characteristic and the diagnosis easily made. Objectively: excoriated alae, inflamed upper lip, thick muco-purulent discharge, mouth breathing, swollen turbinates both inferior and middle usually covered with the same material, nasal passages occluded. Post-nasal discharge, easily seen on gagging. Shrinking of the tissues in older children, shows the discharge under the middle turbinate and in olfactory fissure. Subjectively: fever, irritability, restless sleep because of inability to breath through the nose, loss of appetite, cough often very troublesome, bronchitis and frequently is added other symptoms or complications in remote parts of the body.

Termination of the condition is in (1) resolution and return to normal, (2) supuration in one or more sinuses, (3) chronicity.

The subacute type is of more importance to us because of its difficulty in diagnosing in many cases and because of its tendency to cause various complications remote from the seat of infection.

The symptoms vary according to the severity of the infection. In typical cases there may be fever, nasal discharge of a muco-purulent character, swollen turbinates and occluded nares, muco pus in olfactory fissure, post-nasal discharge and a peculiar nasal twang to the voice. Impaired hearing with a redness of the tympanum without middle ear abscess. Frequently these symptoms are modified and we see only a little crusting or scaling just within the vestibule, temperature of from 99 to 100 running over a period of weeks, swollen and congested turbinates. Symptoms that are frequently present and more or less characteristic are sneezing particularly in the morning on arising with or without nasal discharge, coughing especially at night on lying down, irritability, lack of energy, backward in school, easily exhausted, loss of weight and appetite, pale and anemic. Post cervical lymphatic glands palpable. Diagnosis is based on the history which is all important, examination of the nares which is next in importance, and which should be carefully made, transillumination and X-ray.

Complications may also be divided into those associated with the acute and sub-acute or chronic cases. Many of these are common to both forms. The acute complications are (1) middle ear abscess with discharge persisting until the sinus infection is cleared up. I have frequently seen this same stringy mucoid discharge, similar in every respect to the nasal discharge, persist from the ear until the sinus infection was cleared up. (2) Bronchitis. (3) Acute pyelitis, gastro-enteritis, etc.

Complications associated with the sub-acute or chronic form are very important.

(1) *Fevers of unknown origin.* These cases are very trying to both the parents and the physician. It is often difficult to establish the focus, but the cause of the majority of them is located in the paranasal sinuses and especially the ethmoids. The temperature runs from 99 to 100 or

even 101, usually normal in the morning and up in the afternoon, with perhaps a day now and then free from elevation of temperature. It usually persists over a period of weeks and in some instances months. These patients are usually carried from physician to physician with little improvement. Associated there may be a valvular murmur, which is probably due to the same focus and to which is attributed the fever. Many of these cases I am firmly convinced are treated primarily as an endocarditis, when undoubtedly both conditions are due to a primary focus in the nasal sinus which is overlooked or left untreated thereby permitting constant absorption of toxine which in turn acts upon the weakened heart until in some cases there is permanent impairment of the valve.

(3) *Pyelitis*—particularly of the recurring type. All of you have seen these cases. The case that suddenly develops a high temperature in the evening, down in the morning, and urine filled with pus, clearing up nicely under your favorite alkaline or acid treatment only to return in a month or two or less and run the same course. Absorption of a shower of poison as it were. Perhaps the tonsils and adenoids have been removed with relief of the condition and yet it recurs and you are at your wits end to determine the source of the infection. I have seen quite a few of these cases.

(4) *Nephritis*—frequently associated with pyelitis, but more serious. I have seen repeatedly the presence of albumin and granular casts clear up and disappear under treatment of the ethmoid sinus alone and have seen them return when treatment was stopped too soon or when an acute coryza developed or rather when a flaring up of the old infection occurred due to exposure, indiscreet diet, etc.

(5) *Asthma*—most commonly due to some sinus infection. In every case of asthma I have seen during the past two years I have always been able to find some path-

ology in the para-nasal sinus, relief of which has relieved the asthma. We have ten cases of asthma in children so far in 1926 with relief in every instance, not entirely free from attacks but reduction in number of attacks and their severity. I am convinced that asthma in children is due in the great majority of cases to a nasal sinus infection, plus in some cases a toxemia either from within or without, acting as an exciting cause. The most brilliant results we have seen in this disease have come from treatment of the nasal sinuses. This is not strange when we consider the various ramifications of the branches of the sphenopalatine ganglion, a small ganglion lying in the sphenomaxillary fossa, and anatomically just back of and above the posterior tip of the middle turbinate. It has been shown that the fibers of the cervical sympathetic from the ganglion pass by way of the Vidian and Carotid plexus and finally to the lower cervical ganglion which is intimately connected with the first thoracic; accelerator fibers for the heart and vasomotor fibers for the lungs, also pass through these ganglia.

(6) *Recurring Bronchitis*—not unusual but often seen and usually in each instance following a flare up of the sinus infection. Every case of this kind should be carefully examined for infection in the sinuses. The nasal sinus disease is explained by recalling to mind the lymphatic drainage of this area as previously outlined in the first part of this paper.

(7) *Gastro intestinal disturbances*—This is usually so severe that it is thought to be the primary trouble. Whether it is due to swallowing the nasal discharge or elimination of bacterial products through the intestinal tract is not known, but probably due to both. Many cases of severe diarrhea in infancy occurring particularly during the cooler months are due to a focal infection especially found in the ethmoid region. McKim Marriott of St. Louis says that in his experience seventy-five percent

of these cases are due to infection in the ear or mastoid, but in our opinion infection here is usually secondary to a post-ethmoid infection. Brenneman has particularly emphasized a very frequent and important symptom, namely abdominal pain due to sinus infection. Acidosis is not an infrequent complication. Periodic vomiting is sometimes present.

(8) *Head complications.* Most frequent is acute suppurative otitis media. The majority of these cases are undoubtedly secondary to a post-ethmoid infection and clear up only when the sinus infection is well. When incision and drainage of the middle ear does not clear up high temperature in children which frequently is the case, careful attention to the para-nasal sinuses will frequently show the reason for it, and treatment directed to this area will usually bring about the desired result. Unquestionably mastoids have been opened and drained because of a persistent otorrhea which were due exclusively to a post-nasal infection untreated.

Encephalitis lethargica is often found associated with a para-nasal infection. I have seen two cases of this the past year. Marriott reports three. Yates and Barnes in the July Lancet report twenty-three cases in which they found inflammation in and around the sphenoid sinuses in all. Meningitis is an occasional complication. Cervical adenitis is most frequent and a very valuable diagnostic sign. Palpable and enlarged glands in the post-cervical chain is very characteristic of sinus infection. Frequently these glands undergo a degenerative change in their center with subsequent kidney complication.

Various headaches and neuralgia, particularly those resulting from irritation of the nasal ganglion. Children around the age of seven first complain of these headaches though Dr. Still in his text-book states that at the age of five years children have complained of headache.

Eye complications are very common such as phlyctenular conjunctivitis, retrobulbar neuritis, optic neuritis, orbital cellulitis and abscess, etc.

(9) *Acute and chronic infectious arthritis*—a very common complication of sinus infection. Dean has reported numbers of cases of this character with usually most remarkable results. We have seen numbers of cases clear up after treatment of the sinuses both operative and non-operative.

It is not my purpose to go into the treatment in detail. Suffice it is to say that the majority of cases yield readily to local and general measures. Some cases need operative interference. A few show gratifying improvement under treatment but are prone to relapse and the disease tends to be progressive. Often many months of treatment at intervals is necessary. Frequently a change of climate is beneficial. Measures looking to the building up of the general system are always necessary. Proper diet particularly is indicated.

In conclusion I wish to emphasize again that in looking for a focal infection an exhaustive examination must be made of the para-nasal sinuses. This must frequently be repeated before sufficient evidence is found in some cases.

Secondly, these cases come to you with practically no evidence or history of para-nasal sinus infection but because of some condition remote from the original focus.

Third, do not overlook the fact that though the tonsils and adenoids have been successfully removed the focus of infection may still be in the post ethmoid sinuses.

Fourth, that para-nasal sinus diseases occurs in children and infants at any age. Dr. Dean reports a case of a seven day old baby dying from this cause, and on which an autopsy showed pus in the ethmoid and maxillary sinus under tension. Many cases are seen in the early months of life.

Lastly, remember that in many cases there may be more than one focus of infection and all must be eliminated. Attention to this point will often prevent great discouragement in the happy final results to which we are looking forward.

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DISCUSSION.

Dr. E. H. Jones (Vicksburg): Dr. Montgomery has treated the matter very thoroughly. If you ever have a case showing the picture he describes it will be so definitely impressed upon you that you will never forget it, and you will recognize a like case. You get an under-weight, under-nourished, anemic child, running a little temperature—the general physician has been over her and found nothing; an x-ray of the sinuses may show nothing, yet the symptoms described persist, especially the sneezing in the morning and a crusting in the nares. Following nasal treatment, the patient responds.

Dr. D. C. Montgomery (closing): This may not seem very important, but it is to the general practitioner. These cases are very common, and particularly do the pediatricians see them.

I want to emphasize three or four symptoms that should make one suspicious. One is the sneezing in the morning—that is very characteristic of sinus involvement, particularly the ethmoids. If the x-rays show no evidence other than under-development of the ethmoid cells, that alone is sufficient to make a diagnosis of sinus infection of long standing. These two points especially I want to bring out in closing.

IMPORTANT FACTS IN THE OPERATIVE CURE OF HERNIA.*

H. R. SHANDS, M. D.,
 JACKSON, MISS.

Hernia was the cause of the second largest group of defects among our drafted men. Of the first two million five hundred

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thousand men examined, not less than fifty-seven thousand three hundred seventy-two showed well marked inguinal hernia, and fifty-two thousand two hundred ninety-two in addition showed enlargement of the inguinal ring. Of the former group, thirty-five thousand seven hundred and forty-one or about two-thirds were rejected for any military service; or the latter, eighteen hundred and forty-one were rejected. Altogether hernia or enlargement of the inguinal rings were found in about four per cent of the population of the military age. This percentage will certainly be increased with each decade after the third.

The drafted men from Mississippi gave an incidence of twenty-six and forty-three hundredths per thousand. On this basis there are no less than fifty thousand people with hernia in Mississippi. Berger makes the statement that about one person in sixteen born will acquire hernia.

The modern operation for the cure of hernia is probably the most successful surgical procedure which we have. Prior to Bassini, Wood in 1886, reported twenty-seven per cent. of recurrences and Bull in 1890 thirty-six per cent. In 1889 Bassini made Padua the Mecca for all herniotomists and his percentage of recurrence was only two and eight-tenths. In 1924 Coley reported ten thousand operations for hernia with a recurrence rate of only about two per cent. Murphy in a very elaborate analysis, reports a gradually increasing rate of from one per cent, under one year, to nine per cent in patients over sixty.

The percentage of recurrence depends on several factors. In children and in young adults with small indirect hernias the recurrence will be almost nil. In fat middle aged and elderly people with large direct hernias the recurrence rate may be as high as ten to possibly fifteen per cent. The type of operation done and the skill and experience of the operator are also, of course, extremely important factors.

If you will consult your actual hospital records you will be surprised to discover what a small percentage of our people are availing themselves of the operative cure of hernia, which is truly a triumph of modern surgery. At the Baptist Hospital in Jackson, in the past three and one-half years, since the hospital was standardized and accurate records kept there have been only seventy-two operations for inguinal hernia, and in ten of these cases the hernia was strangulated—ventral hernia ten cases, three strangulated—umbilical hernia three cases, one strangulated—femoral hernia nine cases, two strangulated. In this time only ninety-four patients have been admitted for the treatment of hernia, and sixteen of these were strangulated. In the same period there have been nine hundred thirty operations for appendicitis, which probably occurs no more commonly than does some kind of a hernia. That is approximately ten per cent of the admissions have been for appendicitis and only one per cent for the treatment of hernia.

At the Charity Hospital in Jackson in the past three years there have been admitted one hundred thirty-five cases for the treatment of hernia. This is a little less than two per cent of the total admissions. Eighteen of these cases were strangulated. At the Jackson Infirmary in the past eighteen months there have been admitted twenty-six cases for the treatment of hernia. This is a little less than one per cent of their admissions. Four of these cases were strangulated.

This should not be, for hernia, while not the cause of many deaths is a very disabling defect, rendering one unfit for any kind of hard physical exertion, and the danger of strangulation is ever present. Our seventeen per cent of strangulations in hernia admissions is rather startling. In three months this year I operated upon four cases of strangulated hernia. In one the patient was eighty years of age, another seventy-six, and in one fifty, the sac con-

tained fifteen inches of gangrenous bowel. We should protect our old age better than this by curing the hernias by surgical means. These cases all recovered, with a radical cure, still strangulation of a hernia is a real surgical catastrophe with great danger to life and calling for very prompt action.

In the U. S. Army—1917-18—the mortality percentage in twenty-five thousand nine hundred ten hernia operations was only twenty-six hundredths per cent. This is probably a true average mortality for competent surgeons, for these statistics include the work of all the Army surgeons in many different hospitals. No other major operation has such a low death rate and the advisability of early operation should be emphasized.

With the introduction of novocain the necessity for general anesthesia in herniotomy has practically been eliminated. Only the very unusual or complicated case requires general narcosis. The statement that the wound heals better after a general anesthetic is certainly not based on fact if a sterile one-half per cent novocain is used as a local anesthetic. Not only is this solution not irritating to the tissues, but the gentleness in manipulation which is necessary with a local anesthetic actually adds primary union. If adrenalin is used with novocain unusual care should be taken to ligate every possible bleeding point so as to avoid the possibility of the subsequent development of a haematoma. Local anesthesia is distinctly the method of choice in the average case.

Time will not permit the detailed description of the various methods of herniotomy. High ligation or suture of the sac is very important. Russell has shown that in children and young adults with oblique hernia this simple procedure gives almost complete freedom from recurrence. Oschner brought out the same fact in connection with femoral hernia.

Seelig and Chouke demonstrated experimentally that red muscle does not heal firmly to fascia. The best results are obtained in large or direct hernias when fascia is sutured to fascia. The general plan of Halsted or Andrews where the fascia of the external oblique is sutured to Poupart's ligament, possesses many advantages over the Bassini operation as it is generally one. Over-lapping and imbrication of the fascial layers with transplantation of the cord produces a very firm abdominal wall. The over-lapping principle as emphasized by Mayo in his operation for umbilical and also for ventral hernia was a very great advance and revolutionized the treatment of these two difficult forms of hernia. Whereas formerly umbilical and ventral hernia operations had a very considerable mortality and often failed to hold, now there is almost no mortality and they practically always hold.

The fascia must be sutured without tension, for it is a rule of surgery that no tissue will heal satisfactorily under tension. If the aponeurosis of the external oblique will not approximate Poupart's ligament easily, the fat should be freely dissected off over the rectus muscle and a liberal longitudinal incision in the external aponeurosis of the rectus muscle made so that the two fascial edges can be readily sutured together. The area over the rectus will not be dangerously weakened for the internal aponeurosis of the rectus and the muscle itself form a firm wall. The separated external aponeurosis will soon replace itself with a firm fibrous tissue. The same principle of liberating incisions in the external fascia a few inches from the hernial opening so as to relieve tension can be used to great advantage in the cure of difficult ventral hernias.

In the management of the sac in direct hernias two points are of especial interest. The bladder not infrequently is found attached to the inner portion of the sac and care must be taken to prevent its injury.

Quite commonly with a large direct sac there occurs also a small indirect sac above the deep epigastric, this small sac invites recurrence of an indirect hernia unless properly extirpated.

On account of its rare occurrence and extreme difficulty of management to the uninformed, mention will be made of sliding hernias. When in a stout patient of middle or advanced age with a good sized hernia, a history is obtained of an inability to retain the protrusion with a truss, a sliding hernia should be thought of. A positive diagnosis can only be made when the sac is opened. Few more disconcerting conditions arise to the uninitiated, than the discovery of the fact that the posterior part of the supposed sac is not peritoneum but some part of the large intestine. There is some danger unless one is informed, of regarding this sliding viscus as merely an adherent intestine within the sac. In his attempt to separate these supposed adhesions there is great danger of cutting the nutrient vessels to this part of the large intestine. These nutrient vessels are, of course, carried down with the sliding intestine. The part of the intestine involved in the sac of a sliding hernia is either caecum, ascending or descending colon, not the sigmoid as is commonly believed. A true knowledge of the anatomy in this condition, demonstrates that only such a viscus, which is only partially surrounded by peritoneum can be involved in a sliding hernia. The intestine which normally lies against the posterior abdominal wall and is partially uncovered by peritoneum slides down and becomes a part of the sac of the hernial protrusion.

Moschcowitz has written at length and most illuminatingly on this subject. He has shown that while it is almost impossible properly to reduce the hernial contents by pushing up from below; that if another incision is made higher up and the involved intestine pulled upward, that it very readily comes back to its normal position and can

be held by a few sutures attaching its peritoneum and mesentery to the posterior parietal wall. What has been a large sac is now discovered to be small and possibly only a slit in the peritoneum. A radical cure is now proceeded with in the usual manner.

Sistrunk in these cases advises the removal of the testicle and cord so as to strengthen the closure of the abdominal wall. After having had one recurrence in a large sliding hernia I have given considerable thought to this difficult problem. In a case eighteen months ago this condition was surmised from the history of inability to hold the hernia with any kind of truss. Before operation, which in this case was done, on account of the patient's nervous apprehension and at his request, under a general anesthetic, permission was obtained to remove the testicle if found advisable. In this case notwithstanding the patient has been unusually active in his subsequent physical exertion the radical cure is still all that could be desired.

In elderly stout patients with large direct hernias the radical cure may require an extensive plastic operation. Permission should be obtained before hand for the removal of the testicle if found desirable. Of course this will be indicated in only the very exceptional case; a recurrence is a reproach to our art, and fore warned is fore armed.

Strangulation with gangrenous intestine presents many difficult problems. In the first place it is remarkable how black an intestine will come back to life if given an opportunity. If the bowel is not viable of course some kind of resection becomes necessary. If the obstruction has not existed too long immediate resection with enterostomy above the suture line can be fairly safely done. If the obstruction has been long continued and the patient toxic, the procedure emphasized by John Young Brown twenty-five years ago is certainly life saving. He advised that the diseased

bowel be simply brought out through the wound for drainage, and the suture of the bowel ends and the closure of the hernia reserved for a subsequent operation. In a personal recent case of this kind a suprapubic midline incision was made and the gangrenous bowel brought out through this opening after the plan of Mikulicz. A radical cure was done on the hernia after the removal of the testicle, which was atrophic and undescended. After the removal of the testicle and cord the radical suture of the hernial opening can be done almost as quickly as the ordinary closure of the abdomen. In this case after three weeks a crushing forcep was applied in the open ends of the small intestine to cut through the spur and a few days later the intestinal continuity re-established with no great difficulty and without opening freely into the general peritoneal cavity.

In conclusion the successful radical cure of a hernia is a procedure which gives a patient relief for the remainder of his life. There is no sane reason in breaking the speed limit in getting the patient out of bed. The suture line is stronger immediately after a properly performed operation than it is at the end of ten days. No safe engineer would build a concrete dam and turn on the pressure of the water before the concrete had properly set. In small indirect hernias this does not make very much difference, but in a large direct hernia with much intra-abdominal pressure the patient should be kept in a recumbent posture for two and one-half or three weeks. There is always more danger in the recurrence of a hernia than in the development of hernia after a clean abdominal incision higher up.

DISCUSSION.

Dr. John Darrington (Yazoo City): I have known this essayist for many years and when I see his name on a program I am always sure we will hear a paper full of common sense—one of great value to us all—as we have heard today. He has brought up a subject that is very common, a condition that very frequently comes un-

der the observation of the general physician, but I did not know it was quite so common as his paper would indicate.

Hernia is a great handicap to a laboring man, and there are only two treatments—one is to wear a truss, and the other is to submit to operation. The latter of course is highly desirable, but many men start to wear a truss and continue it through life, with great danger of strangulation occurring at any time; then as they grow older the tissues relax and the operation is much more difficult and recurrence much more likely.

He speaks of sliding hernia. If some young surgeon were to ask me to make a good wish for him, it would be that never during his life would he be called to operate on a sliding hernia, under local anesthesia, before an audience. I have tried it, and I was lost. We read of these explorers hunting big game in South Africa, but I do not believe a man could be so badly lost in South Africa as he is trying to do this operation. You must experience that before you really appreciate the difficulties.

The essayist has given us statistics rather than details of the operation. I do think there is no one operation that stands out clearly as being more effective than any other. You must adapt the operation to the case. In young people almost any kind of operation will prove satisfactory, provided the sac is ligated high, and provided the nerve supply is so conserved and the wound is dry, and that there is no infection. As you get into hernias in older people the per cent of failures will increase, so your statistics would have to be divided between young people, middle aged and old people, and those with constitutional disease.

Dr. Robert H. Foster (Laurel): There are two points I would like to stress, and one is the use of novocain. Dr. Shands says he uses one-half per cent with adrenalin. We use 1 per cent and no adrenalin, and I have never seen any trouble. I would like to stress that and have you carry it back with you, because there is a great deal of prejudice against local operations because patients think they will not heal as readily as when operated under ether. During the war, and up until now, we operated quite a few hernias, as those of you who were in the service know—we had hernias morning, noon and night. But we have come to where we will not operate under general anesthesia if we can persuade the patient to let us operate under local. One point is that operating under local helps one to find the sac. If there is any difficulty in locating the sac, have the man strain or cough and you immediately find it.

As Dr. Shands says about ligating high, if you give your patient scopolamin and morphin followed by one-half or 1 per cent novocain, there will be very little pain attached to the operation and you can separate the tissues and ligate as high as possible. When that is done, unless it is too large, the rest is easy.

Dr. H. R. Shands (closing): My object in reading this paper was to call attention to the hernia statistics of the various Jackson hospitals. In Mississippi of course we have very few large corporations which require a physical examination of their employees. For this reason the percentage of hernia operations done in Mississippi is small. I was surprised to discover what a small percentage of people with hernia are operated upon in this section of the country. I feel that the people should be enlightened in connection with the danger of strangulation of a hernia and as to the amount of disability it causes. The fact that a hernia operation is generally successful, practically free from danger, can be done without putting the patient to sleep, should encourage more herniotomies.

SURGERY IN DIABETICS.*

I. I. LEMANN, M. D.,
NEW ORLEANS.

The advent of insulin has served to arouse the greatest interest in all topics related to diabetes. Insulin has, therefore, been a boon not only in its application to treatment but in spreading all kinds and bits of knowledge concerning diabetes. Much that was already known in pre-insulin days is only now coming into general attention. This is to a large extent true of the chapter of surgery in diabetes. Some idea of the increased interest in this field is suggested by the fact that in the first eight volumes of the Cumulative Index of the Journal of the American Medical Association, namely for the years 1916-1923 inclusive, there appeared a total of six titles of articles upon this subject, whereas in 1924 there were ten titles and in the 1925 volume there were seventeen titles; thus in the latter year there had been published

more papers than in all the first eight years together. The general impression in former years was that surgery in diabetes was surgery that had better not be done. Diabetes was accepted by most surgeons as a sign: Touch me not. And yet there had already been many experiences to indicate that this extreme view was unjustified. Naunyn⁽¹⁾ pointed out that "since Rosen, Israel and Koenig had placed the importance of antidiabetic (dietetic) treatment and of thorough antisepsis and asepsis in the proper light, capital operations have been performed (upon diabetics) with the best results even in the presence of a high grade glycosuria." Twenty years later Joslin⁽²⁾ in his second edition wrote: "The more I see of diabetic surgery the less difference I observe in it from surgery of the non-diabetic." He again stresses the elements favoring surgical success:

"A. Good medical care before and after the operation.

B. The method of anesthesia.

C. Employment of asepsis rather than antisepsis.

D. Avoidance of trauma."

Strouse⁽³⁾ in 1916 reported from the Michael Reese Hospital of Chicago that of 338 diabetics admitted in fifteen years, there had been 17.8% deaths. Thirty-eight of these diabetics had been operated upon with 31.3% deaths. Twenty-two cases had been operated upon for sequellae of diabetes with 27% mortality. Eight patients who had been properly prepared had been operated upon without a single death. Strouse quoted Karenski's statistics: 225 diabetics operated upon with 21% mortality (15% from coma) and commented that Karenski believed in proper preparation whereas Fischer who did not believe in preparation had a mortality of 48.8% in 86 cases. Fitz⁽⁴⁾ in 1920 reported from the Massachusetts General Hospital that in the years 1913-17:

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

386 diabetics had been admitted,

54 (14%) had surgical complications,

45 had been operated upon,

20 had an acute infection (50% mortality),

25 had no acute infection (12% mortality),

9 had no acute infection and were well prepared (0% mortality).

He concluded that:

1. No diabetic is as good a surgical risk as a normal individual.
2. No diabetic with an acute infection is as good a surgical risk as one without infection.
3. Prolonged course of preoperative treatment whenever possible is essential to minimize dangers of operation.
4. The risk of any operation for a properly prepared non-infected diabetic is slight, but local anesthesia or gas-oxygen are safer than spinal anesthesia or ether.

Berkman⁽⁵⁾ in 1921 reported 159 operations of all kinds on diabetics at the Mayo Clinic with a mortality of 5.03%.

Since the advent of insulin Adams and Wilder⁽⁶⁾ have reported from the Mayo Clinic in the period October 1, 1921, to October 1, 1923, 327 operations on 251 diabetic patients with a mortality of 1.2%. The mortality for major operations was 2.8%, for abdominal operations 4.2%. See footnote.*

E. H. Mason has given the experience at the Royal Victoria Hospital, as follows:

Before insulin was available: 41 operations, operative mortality 22%, after insulin was available: 60 operations, operative mortality 15%.

N. B. Foster⁽⁸⁾ reported that the operative mortality in diabetes in the New York

Hospital dropped to about 12% in the first year of insulin (103 cases, 12 deaths). In this hospital the mortality rate for 160 diabetic patients operated upon from 1897 to 1922 (pre-insulin period) had been 38.6%⁽⁹⁾.

In the histories of 407 cases of diabetics I have seen, I find notes concerning operative procedures in 43. There has been but one post-operative death and not a single post-operative infection. These 43 patients were operated upon by 25 different surgeons. Chiefly, these operations have been performed since insulin days, though insulin was not invariably employed in preparation or after treatment; thus in 14 cases insulin was not used in preparation. This group of 14 cases without insulin included:

- 2 emergency operations for acute appendicitis,
- 1 laparotomy for papilloma of the ovaries,
- 1 laparotomy for carcinoma of uterus,
- 1 laparotomy for carcinoma of stomach,
- 1 amputation of fingers for infected gangrene,
- 1 amputation of leg for infected perforating ulcer of the toe with gangrene.
- 1 tonsillectomy,
- 1 incision of perirectal abscess,
- 1 infected perforated ulcer of plantar surface,
- 1 cataract operation,
- 1 operation for glaucoma,
- 1 suprapubic prostatectomy.

Of these fourteen patients, ten had a general anesthetic, two of them developed coma and were rescued by insulin. One of these two patients came under my care only subsequently in order that her diet and insulin dosage might be regulated. The other was referred to me while she was in coma following ether anesthesia. The diabetes had been diagnosed only after the operation and after the appearance of the classical Kussmaul air hunger and other signs of impending coma. Of the other eight cases taking a general anesthetic and

*Judd, Wilder and Adams have just reported in the *Journal of the American Medical Association* 86, p. 1107, April 10, 1926, that between October, 1921, and October, 1925, 667 operations have been performed on 497 patients, 363 minor operations and 304 major operations; of the minor operations there had been two deaths, of the major operations there had been eighteen deaths, a total of 20 deaths in 497 patients, or a little bit more than four per cent, twenty deaths in 667 patients or three percent.

not taking insulin in preparation, four occurred before insulin days, four were operated upon while not under my supervision. They were apparently of very mild grade. Two of the ten patients who were given a general anesthetic (ether), as already related, developed coma and were rescued by insulin. Thus is emphasized once more the great desirability of preparing diabetics in anticipation of an operation and an anesthetic.

In twenty-nine cases where insulin was used, a general anesthetic was employed in twenty instances, local anesthesia in six instances and spinal analgesia in two instances. In one case no anesthetic was employed. We have studied the CO_2 combining power of the blood plasma in fourteen cases where a general anesthetic (ethylene gas) was used in combination with other measures presently to be described. The blood was taken before the anesthesia and an hour after the anesthesia. In every case we were able to observe that there was not the slightest indication of acidosis. The following tabulation of cases is set down in order to afford some idea of the gravity of the surgical conditions through which diabetes may be successfully carried.

When one has seen a diabetic coma safely and serenely through the stormy perils subsequent to a ruptured appendix with free pus and feces in the abdomen, one has again the thrill he experienced in the rescue of his first diabetic coma cases. There results a reliance upon the efficacy of insulin properly used that is hardly paralleled in other fields of medicine. "Diabetes is one disease that may be handled with almost mathematical precision." The following case will serve to illustrate.

S. W. 2710, age 52, had been a diabetic for at least three years. He had weighed 225 pounds in 1920 and weighed 185 pounds when he came under observation in early November, 1925. He was non-co-operative in our attempt to reduce his blood sugar from 235 and to free his urine from sugar. The glycosuria ranged from traces to 1 per cent. On November 30th he had violent

pain in his abdomen and his bowels moved four or five times, the movements being firm, not watery. His temperature was subnormal, his pulse 76. He was sent home to bed with instructions not to eat. He was better the next day and so much better on the third day that contrary to advice he rose, ate a hearty breakfast and went to the Hotel Dieu where his wife was under treatment. There he had agonizing abdominal pain and collapsed. Dr. Maurice Gelpi saw him at once. The temperature was 99° , the leucocyte count was 30,200, with 93 per cent polymorphonuclears. Within the hour he was on the operating table. Ethylene gas was used. During the anesthesia 20 c.c. of 50 per cent. glucose (ten grams) were given intravenously and twenty units of insulin hypodermically. Before the anesthesia the blood sugar was 60 mgs. and the CO_2 combining power of the blood plasma was 54 ² volume per cent. The operation revealed a ruptured gangrenous appendix with pus and feces free in the abdomen. Cofferdams of cigarette drains were inserted to localize the process and no attempt was made to explore or to remove the appendix. The patient awoke on the table and had no nausea. Two hours after the operation the blood sugar was 190 mgs. per 100 cc. and the CO_2 combining power 50 volumes per cent. The first post-operative orders were:

1. Rectal drip of two per cent. glucose.
2. Insulin every four hours in doses according to the intensity of the Benedict qualitative reaction.

It was necessary to catheterize and to leave the catheter in situ to obtain the necessary specimens. In the first twenty-four hours he received 68 units of insulin. The second day he was allowed non-residue liquids including sweet drinks (coca cola) and sweetened coffee. This regimen was continued for several days; gradually the diet was enlarged as in any non-diabetic patient to include milk and cereals. The insulin was administered every six hours, the total twenty-four hour dose ranging from twenty-four to forty units. When the patient was definitely convalescent from the surgical standpoint, the diet was put on an exact measured basis and the insulin dosage was adjusted to bring the blood sugar to normal. On a diet of carbohydrate 65, protein 50, fat 150, about fifty units of insulin daily were required. The patient remained in the hospital for two months. Two subsequent operations under local anesthesia were required to approximate the edges of the tremendous gap in the abdominal wall. During the first week after his original operation, superficial gangrene developed at the end of the toes on both feet. This was treated by constant exposure to electric light. The end result was

CASES TAKING GENERAL ANESTHESIA.

No.	Age	Diagnosis	Operation	Anesthesia	Insulin	Post-operative coma.	Insulin rescue
1953	22	Peri-rectal abscess	Opened	Ether	No		
2548	73	Gangrene of toes	Amputation of one-third of leg	Ethylene	Yes		
2562	63	Gangrene of foot	Amputation of leg	Ethylene	Yes		
2396	58	Gall bladder (gangrenous)	Cholecystotomy	Ethylene	Yes		
2318		Gangrene of foot	Amputation of leg	Ether	Yes		
2331	51	Gangrene of foot	Amputation of leg	Ethylene	Yes		
2279	19	Abscess of mastoid region	Incised	Ethylene	Yes		
2250	47	Gangrene of foot	Amputation of leg	Ethylene	Yes		
2194	60	Acute appendicitis	Appendectomy	Gas and oxygen	Yes		Insulin only subsequent to operation.
2190	62	Carcinoma of the pancreas	Exploratory	Ethylene	Yes		
2156	64	Appendicitis	Appendectomy	Ether	No		
1886	59	Papilloma of the bladder	Exploratory	Ethylene	No		
2260	25	Tonsillitis	Tonsillectomy	Gas and ether	No		
2503	48	Carcinoma of the stomach	Exploratory Laparotomy	Ether	No		
1287	68	Infection of the fingers	Amputation of the fingers	Ether	No		
1325	16	Pregnancy	Uterus emptied	Ethylene	Yes		Pre-eclampsia.
2112	50	Abscess of finger	Incised	Ethylene	Yes		
1843	17	Gunshot wound	Amputation at shoulder	Ethylene	Yes		
2836	63	Gangrene of toe	Amputation of leg above knee	Ether	Yes		
2170	54	Carcinoma of the pancreas	Cholecystentrostomy	Ethylene	Yes		
2786	50	Abscess of back	Incised	Ethylene	Yes		
2319	73	Gangrene of foot	Amputation of leg above knee	Ethylene	Yes		
2762	56	Gangrene of foot	Incised	Gas and ether	Yes		
430	55	Papilloma of ovaries	Laparotomy	Ethylene	No		Wonderful result from conservative surgery.
407	44	Acute appendicitis	Appendectomy	Ether	No		Pre-insulin.
750		Perforating ulcer of toe—gangrene					
2438	58	Carcinoma of the uterus	Amputation of leg	Ether	No		Pre-insulin.
2710	52	Appendicitis	Abdominal hysterectomy	Ethylene	Yes		Ruptured gangrenous appendix. Free pus and feces in the abdomen.
1976	74	Carcinoma of the uterus	Appendectomy	Ethylene	Yes		
			Excised by cautery	Gas-Oxygen	No		

CASES WITHOUT GENERAL ANESTHESIA.

No.	Age	Diagnosis	Operation	Anesthesia	Insulin	Post-operative coma.	Insulin rescue
2026	63	Epithelioma of ear	Excised	Local	Yes		
2564	53	Abscess of lung	Resecting of rib, drained	Local	Yes		
2502	75	Cataract	Extraction	Local	No		
48		Infected perforating ulcer of plantar surface					
2297	57	Glaucoma	Incised	Local	No		
2382	64	Carcinoma of the cervix	Vaginal hysterectomy	Local	No		Insulin subsequently.
2350	22	Tonsillitis	Tonsillectomy	Local	Yes		
1915	45	Cellulitis	Incised	Local	Yes		
2146	41	Carbuncles	Incised	Local	Yes		
2547	65	Extensive Cellulitis of back and neck	Incised	Local	Yes		
2045	59	Gangrene	Amputation of leg	None	Yes		Violent sepsis. Died.
2642	43	Ulcer of toe	Amputation of leg above knee	Spinal	Yes		
2615	80	Prostatitis	Prostatectomy	Spinal	No		Very mild diabetes.

most gratifying for the process was limited and not the smallest part of any toe was ultimately sacrificed. The patient has been restored to complete activity and is able to take an ample diet, carbohydrate 80, protein 60, fat 150, with two doses of insulin daily, 26 units before breakfast and 22 units before his evening meal. He says he feels now much more vigorous and energetic than he has for years.

Infection of any sort is badly borne by a diabetic. It depresses his tolerance and increases the risk of acidosis. Infection, therefore, is an indication for prompt surgical intervention in a diabetic. The risk of an operation when safeguarded by insulin and other measures such as the provisions of adequate fluid and adequate carbohydrate food is far less than that of the infection. Clean cases requiring operation for conditions unrelated to the diabetes, on the other hand, are more advantageously attacked after a preliminary period of preparation by diet and insulin (when necessary), assuring freedom from acidosis and a storage of glycogen reserve provided by a liberal carbohydrate diet. It has been our custom to provide a diet of eighty to one hundred grams of carbohydrate, about two-thirds grams of protein per kilogram of bodyweight and not more than eighty grams of fat for some days in advance of the operation. We insist on the absence of acidosis and try to have the urine free from sugar and the blood sugar level normal. These two latter requirements have usually been complied with. If the operation is to be done in the early morning, an additional feeding of carbohydrate food, together with a dose of insulin is provided at midnight. Usually an intravenous injection of ten grams of glucose (20 cc. of fifty per cent solution) is given on the operating table with insulin ten units hypodermically or into the vein. We feel that by doing this we tide over the period of starvation that precedes and follows the anesthesia. It has been our almost invariable experience with ethylene anesthesia in connection with this procedure that patients awoken on the table at the conclu-

sion of the operation and never have the slightest nausea. If there is no nausea, feedings are begun four hours after the operation in all but abdominal cases. These feedings of ten grams of carbohydrate (=100 cc. of orange juice, or 180 cc. of skimmed milk, or 5 tablespoonful of oatmeal gruel) are given every four hours. Insulin is given with each feeding in doses graduated according to the grade of glycosuria. This latter is roughly determined by the Benedict qualitative test—an exceedingly simple procedure which is carried out by the nurse. The urine must be tested by her before each dose of insulin. It is often necessary, therefore, to pass a catheter and leave it in situ during this period.

20 units of insulin are given if the Benedict test is red,

16 units of insulin are given if the Benedict test is yellow,

10 units of insulin are given if the Benedict test is green,

No insulin is given if the Benedict test is blue.

Gradually the diet is increased and the insulin dosage is arranged so that within the week or less the patient is back upon his usual maintenance diet and with his usual pre-operative insulin dose. In addition to this regime it is sometimes necessary to provide adequate fluids by hypodermoclysis or by rectal drip. This is particularly the case, of course, in abdominal operations where fluids by mouth may not be permitted. For the hypodermoclysis we use only normal saline. For the rectal drip five per cent glucose furnishes the carbohydrate when this cannot be taken by mouth. In general, I have tried to adapt my post-operative recommendations and orders to the customs and views of the surgeon when dealing with similar conditions in a non-diabetic. For example, the first nourishment permitted post-operatively in abdominal operations is sweet non-residue liquids. Here, in New Orleans, coca cola is a favorite with the surgeons. I have

co-operated with the surgeons in permitting temporarily these sweet drinks in the first post-operative days, providing insulin as above outlined to take care of them. I believe, however, we must insist upon their withdrawal promptly and the substitution of unsweetened carbohydrate food at the earliest possible moment because of the necessity of impressing the patient with the importance of avoiding sugar and sweets in the future; otherwise the discipline is hurt and the patient receives the impression that an indefinite amount of sweet drinks may be consumed.

SUMMARY.

1. Surgery in diabetics has been made vastly safer since the introduction of insulin.

2. The post-operative mortality should not be greatly in excess of that of normal people provided proper safe-guards are observed.

3. The old fear of surgery in diabetics is justified when these safe-guards are not observed.

4. Infection must be relieved promptly in diabetics.

5. It is highly desirable to prepare the non-infected patient by a preliminary dietetic (and insulin) treatment to insure freedom from acidosis and a normal blood sugar level.

6. Close co-operation between the surgeon and the physician directing the handling of the diabetes is essential to success.

DISCUSSION.

Dr. W. P. D. Tilly (New Orleans): I wish to say that just at this time when we are doing more surgery with diabetic cases, this paper is very interesting subject matter to us. In our clinic in the past two years we have had quite a number of traumatic injuries and in these injuries we did the work before we made the laboratory report. In many cases it was the next morning after the operation that we discovered we had diabetic patients to deal with. Dr. Lemann has especially pointed out how to prepare the patient before the operation, but many of us in the past have been

sending patients into the hospital without due examination. We make a diagnosis of appendicitis or acute surgical abdomen, and very often we fail to make sufficient examination to determine whether we have a diabetic patient or not. Many cases have been operated on in the past without sufficient examination.

The thing that I want to stress would be that all patients that are sent into the hospital be thoroughly examined before their admittance. Very often we have patients who are given just a passive examination and the real examination is not made. We operate on these cases and the next day or the third day our laboratory report shows possible diabetic cases. What shall we do with them? We find out from blood examination as soon as possible what type of diabetes we are dealing with. Then we institute insulin treatment in full doses and place our patient on special diet.

In traumatic surgery of the brain, very often we have sugar. These cases are not always diabetic. They are simply temporary conditions that will pass off in a few days, but in minor surgery very often we have patients who are working daily and do not know that they have sugar. There we have to care for our traumatic injuries immediately and a few days after we discover we are dealing with diabetic cases. It is just as important to deal with these cases in a rigid manner and give them full dose of insulin and keep their diet properly cared for so as to get results from our surgery.

An interesting case came to me, just a year ago, with a gangrenous hand admitted to the hospital. I believed said case was due to sugar. I sent for my laboratory man and had it examined. The sugar was over four to six per cent, if I remember. I didn't have a chance to make a blood sugar then but I simply bored the gangrenous sections of the hand. Then I called in consultation Dr. Randolph Lyons in this case, and we made a thorough examination and gave a full report. We injected as much as sixty units a day of insulin in that case. In the past in our clinic we would have amputated that arm, way up. That lady was nearly eighty years old. She made a perfect recovery. That proved to me the importance of injection of insulin in full doses to tide these patients over until we can care for them.

Dr. W. Marvyn Johnson (New Orleans): Until the last few years patients with diabetes often failed to receive the assistance of the surgeon because of fear of the results of operative interference. On the other hand many optional procedures formerly undertaken resulted in diabetic coma, probably because of lack of control of the disease prior to and following operation. During

the last few years there have been distinct advances in the management of diabetes, particularly through the introduction of insulin, and in the light of this newer knowledge it seems important to determine the present status of diabetic patients who have surgical conditions. It is quite evident that all diabetic patients do not have the same type as regards severity and prognosis, consequently we find that we may classify them into four groups, namely: (1) Acute progressive diabetes with sudden onset of symptoms, tendency to lose weight and strength rapidly and a tolerance for sugar. This is the severe form and occurs most often in young adults and children. (2) Obese adults who have a gradual onset of symptoms. (3) The vascular type of the disease—common in middle-age and elderly persons with demonstrable atherosclerosis. The onset is gradual and does not usually incapacitate the patient. (4) Adults—form of disease doubtful; onset gradual, patient not over-weight and do not have atherosclerosis. The diabetic patient who is to undergo an operation should be observed, his tolerance estimated; his blood sugar determined at frequent intervals and appropriate measures instituted to control acidosis, if present. Finally he should be established on the dietary plan described by *Wilder and insulin given if necessary. During this period an attempt should be made to determine the part played by the condition or lesion. If, for example, the patient has diseased tonsils the carbohydrates in his diet are raised to 100 gm. daily for 3 days before tonsillectomy, affording adequate glycogen reserve. Insulin should be used if necessary to aid in metabolizing this diet. On the morning of the operation no food, 10 to 20 units of insulin may or may not be given, depending on the type of case. Five hours after operation soft and liquid foods may be given. Soft food rich in carbohydrates are permitted and sufficient insulin administered to ensure the burning of glucose and to prevent or minimize any tendency toward acidosis. Traces of sugar in urine at the time are disregarded but no effort is spared to keep the patient free from acidosis. When the patient is again able to tolerate solid food he should be re-established on his regular dietary regimen and insulin dosage. Local anesthesia (cocaine and epinephrin) preceded by $\frac{1}{2}$ gr. morphine and $\frac{1}{200}$ gr. scopolomin for adults. Ether skillfully administered is best for children. It has been my observation that the healing of operative wounds of patients whose diabetes was well under control has been normal. Further we believe that an acute middle ear complication, for instance, will respond to treatment as well as in the absence of diabetes; however, in the presence of disease of

the masteroid operate without delay in order to prevent the deleterious effect of the infection on the diabetes. The most important question to consider is whether or not the patient's diabetes will be favorably influenced by operation considered from two standpoints: (1) With reference to the immediate post-operative manifestations of local and systemic conditions. (2) With reference to the ultimate benefit accruing from the removal of a definite focus of infection. Our experience and that of others has taught that the presence of controlled diabetes does not retard the healing of operative wounds. On the other hand, underlying diabetes is not improved. Retardation of the disease in acute cases is the most that may be expected. If a patient is having frequent attacks of tonsillitis and if each attack decreases his tolerance the removal of the tonsils seems to stop this decrease. Whether or not chronic tonsillitis affects diabetes unfavorably is difficult to say. The removal does not improve the patient's tolerance; however, many of them do become acutely inflamed and definitely detrimental later, hence their removal is recommended.

Summary: Careful attention given to pre-operative and post-operative.

Care of diabetic patients.

Slight glucosuria during post-operative period disregarded but no effort spared to combat acetonia.

Local anesthesia preferred for adult diabetic patients. Ether for young patients.

Delay of healing not observed following local anesthesia.

Dr. C. P. Gray (Monroe): Mr. Chairman, I am convinced that practically every major surgical procedure is feasible with the proper use of insulin. You notice I said "with the proper use of insulin." I don't believe that the statement is true if the use of insulin is haphazard. Just because you have got a hypodermic with insulin in it doesn't follow that you can do anything in major surgery. I feel so keenly about this that where a large surgical problem presents itself for operation in the presence of diabetes, I insist on taking up the case jointly with a medical man.

For instance, in the case referred to by Dr. Lemann (which by the way is a striking example of what can be done with proper medical direction in conjunction with surgery) there was a definite understanding that the man wouldn't be touched until permission was gotten to utilize the medical man. As a matter of fact, the medical man did start his work before we did ours. So a close supervision of the medical phase makes for results, makes for the comfort of the patient and for the comfort of the surgeon.

*A. Wilder, R. M.: J. A. M. A. 78: 1878-1884 (June 17) 1922.

In the case referred to, you have the worst possible type to deal with in surgery. You have a desperately ill individual with a diffuse peritonitis and with sepsis, and you know your vicious circle—sepsis making the diabetes worse and the diabetes making the sepsis worse, and yet this individual's recovery was simply wonderful. The surgical post-operative phase throughout, from the operative side and post-operatively, was practically the same as in any other case, but the diabetic phase was controlled all the time even to the extent of having examinations made as often as every hour at the beginning so that the individual was thoroughly comfortable.

When we saw that his work was dropping off, that was controlled. When his toes began to slough, that was controlled, and everything else that came up in conjunction with the diabetes was controlled just as though the patient didn't have any diabetes at all.

But the point that I want to lay stress on is that the medical phase is important throughout. Another important point in the handling of these diabetics in conjunction with major surgery, in my opinion, is the use of the anesthetic. Undoubtedly ethylene has a definite value. Certainly your chances for acidosis with ether are greater, and on the other hand they are diminished with ethylene. In the case referred to, ethylene was resorted to at first and the two subsequent procedures were done with local, but the avoidance of ether is certainly of distinct benefit. (Applause.)

Dr. A. A. Herold (Shreveport): Since the advent of insulin I have had occasion to see several cases that went to the surgeon—"surgical diabetes"—either surgical from complications of diabetes or from some foreign condition arising, like acute appendicitis, etc., and the operative mortality has been nil. There happens to be one pitfall that a man may get into if he is not careful. Dr. Tilly almost stepped into it, but he did refer to blood sugar; for example: We had a case brought in with a crushed foot and leg. It needed immediate amputation. Routine urinalysis was not made until after the operation. It showed two per cent of sugar. The second specimen obtained showed two per cent. of sugar with acetone,—acetone, I presume, due to ether anesthesia. I was asked if it wouldn't be wise on account of the fact that he had been operated on to give that man insulin. I said, "No, let's get a blood sugar." The blood sugar was normal. We took repeated blood sugar readings and every one was normal. There was a man who, if given insulin, would have been more harmed than helped. I just mention that because that is an error anyone is liable to fall into, especially in traumatic cases.

Dr. Lemann: (in closing read a brief summary of his paper): If any one of these points is disregarded, you cannot hope for the success as indicated by the constantly growing statistics of surgery in diabetes. The subject is an exceedingly encouraging one. As I tried to point out, if we handle these cases properly, there is no reason we should have a diabetic death after an operation. I won't say we should not have deaths after operation because you have deaths after operation in non-diabetics, but there is no reason why you should have a diabetic death after operation; namely, a death from coma or from inanition. It has grown now so that it ought to be almost a disgrace, I was about to say, to lose a case in coma after an operation if you have known of the existence of the diabetes before the operation.

SOME PROBLEMS IN GYNECOLOGY.*

B. C. GARRETT, M. D.,

SHREVEPORT, LA.

The surgical world is still perplexed as to the best method of dealing with carcinoma of the cervix, which is twenty times as common as cancer of the fundus. The progress made thus far is by no means comparable to the effort expended since the recovery is still less than fifty percent in carefully selected cases after radical operation, and there are still ten thousand women dying annually of this dreaded disease. The radical operation gives the largest percentage of cures but is attended by the highest primary death rate and is followed by serious post-operative complications which are difficult to cure and which make life a burden. These facts must be borne in mind in any attempt to judge its value.

In the final analysis the chief problem to solve in the treatment of carcinoma of the cervix is the proper estimation of the amount of involvement of the growth. However, it is agreed by practically all operators that cases showing involvement of the glands, the bladder or the rectum,

*Read before the Louisiana State Medical Society meeting, Monroe, April 15-17, 1926.

and those in which the uterus is fixed by involvement of the parametrium, are inoperable; on the other hand if the uterus is moveable and the bladder, rectum and glands are not involved the case is considered operable.

Likewise, it is difficult to estimate the results of radical operations as one operator might term a case early which another operator terms late, and vice-versa. The primary mortality rate, as taken from a number of surgeons both American and European, ranges from twenty to twenty-five percent as the minimum, and the absolute cure seventeen and one-tenth percent.

Few discoveries have been made in gynecology that have so revolutionized the treatment of carcinoma as have X-ray and radium. Zweifal reports five hundred cases with a cure of thirteen and eight-tenths percent over a five-year period. With their use, these inoperable cases are often made comfortable for a period ranging from one to five years. Clark states that radiation, applying one hundred milligrams one to three times, is of great benefit to inoperable cases, otherwise doomed. Radiation is not the ideal remedy but it compares favorably in results with the radical operation. And in spite of the fact that radium and X-ray have been expected to accomplish too much in some cases, their use is still one of the great advances of the age. G. E. Spahler, of Philadelphia, claims that twenty-nine per cent of all cases he has treated by radiation were cured. He says his success compares favorably with Heyman who reports forty percent cure over a five-year period of early and borderline cases.

Greenough, chairman of a committee appointed by the American College of Surgeons, made the following report on eight hundred twenty-nine cases of carcinoma of the cervix: Ninety-four were free from disease three years after treatment; one-half of these were treated by X-ray and radium. There were no cures of those

treated by cautery alone. In two hundred forty-three early and borderline cases hysterectomy cured one in three with an attending mortality of one in five. Radium together with palliative treatment (cautery) cured one in three, and radium alone one in five.

The Rockefeller Institute has shown experimentally that pre-operative radiation is indicated, first, because it devitalizes the malignant cells so that they are not easily transplanted; second, that when tissue has been irradiated it does not easily become infected with cancer cells when implanted but rather has a destructive effect on them.

Post-operative radiation has been used quite extensively, and sometimes it has been thought to destroy cancer cells and it most certainly does retard their growth, but in deep-seated cases the cancer appears in some other parts of the body and the patient dies of cancer anyway.

Bowing of the Mayo Clinic states that he uses the following method of treatment of carcinoma of the cervix. First, he gives pre-operative radiation and then advises hysterectomy in early cases. This furnishes an opportunity to view the pelvic pathology and examine for cancer of the ovaries, as sometimes occurs. The most favorable time to operate is from four to six weeks after treatment, as usually by this time, the parts are healed and the danger of infection of transplanting the cells are lessened. If the delay is too great before operating, the operation will likely be more tedious from fibrous tissue, especially if the quantity of radium has been excessive.

Heyman claims twenty and nine-tenths percent of cures over a five-year period from radium treatment in all types of cases and forty and five-tenths percent cures in early and borderline cases. He thinks the results are as good as those obtained by surgery and also that radium has the advantage in that it relieves some cases which are inoperable. His method is

to give treatments at weekly intervals until three are given, and if there is recurrence locally he advises a hysterectomy. He has discarded the combined use of radium and X-ray as he has found that the results with radium alone are better.

From the above discussion it must be readily admitted that we are far from a satisfactory manner of handling cases of carcinoma of the cervix. But it is our opinion that in view of our present knowledge, in early cases of carcinoma of the cervix, probably the safest method is to first give radium treatment and follow in a few weeks with hysterectomy. Late cases are best handled by radium treatment but the benefit derived is only of a temporary nature.

At the Charity Hospital, Shreveport, sixty-three cases have come under our observation during the past two years. These were all treated with deep X-ray except two as the Charity Hospital has no radium available for such cases. Two were treated by surgery. Letters were sent to each of these patients and there were twenty-nine replies. Eighteen had died, including the two upon which hysterectomy was done; five were worse; six were improved, two of whom had had further treatment elsewhere.

During this same time thirty-five cases came under our observation at the Schumpert Sanitarium. These cases were handled by various methods, and as yet the time is too short to tell what the ultimate results will be. Replies to inquiries sent out indicate that these patients are still doing fairly well.

We would like to mention another condition of the uterus appearing late in life after menopause, which is quite annoying. This condition consists of a constant, watery drip from the uterus. This discharge may or may not be bloody. No cancer of the cervix is found on examination but the walls of the uterus will prob-

ably appear thickened. If curettage is done cancer may or may not be found. The relief from curettage is only temporary. The question arises as to whether to do a hysterectomy on such cases or not. We think so, because radium apparently does not react well on a senile uterus nor does it relieve a submucous fibroid when present. Besides, radium is not as effective on the fundus of the uterus as on the cervix.

We recommend hysterectomy on all cases of cancer of the fundus. We recommend radium in small doses for menorrhagia, especially in young women, since often when menstruation returns it is normal, and the patient's chance of becoming pregnant is good. We have had some failures with radium in such cases. We have found that the tendency in young girls is for this condition to correct itself.

In the treatment of fibroids, radium should only be used in the intramural, symmetrical type, size of pregnancy of three or four months time, and near the menopause. It should not be used on young women whose ovarian function we wish to preserve. It is not good in P. I. D. complications but is probably the best treatment in menopause bleeding.

Many operators prefer to do a myomectomy where possible, especially in young women. It has been claimed that myectomy was more dangerous than hysterectomy, but this statement is evidently in error, because in nine hundred nine cases at the Mayo Clinic the death rate was only seven-tenths of one percent. The subsequent pregnancies in these cases bear out the importance of performing myectomy instead of hysterectomy. Recurrence does not occur as often as we once thought, for in the cases reported above statistics show that operation was necessary in only two and five-tenths percent and that at a much later date.

Some operators recommend that while doing myomectomies, if hemorrhage is

present, it is well to open up the uterus and explore so as to rule out carcinoma. Radium in well defined cases is of great service but cannot be compared to surgery.

Crile agrees with Clark that near, during or after menopause, cases of intramural fibroids, or cases of fibrous uterus with hemorrhage may be treated with radium plus deep X-ray, but if tumor is submucous or sub-peritoneal, the radiation will probably fail.

In fibroids of the uterus, surgery relieves practically one hundred percent of cases. The technique of operation has been so perfected that the death rate is very low, say one to two percent, and the patient is assured of the preservation of the ovarian tissue. The only question involved is whether the patient is a good surgical risk.

Bevans of Chicago, and Jasske point out that a retroflexed mobile uterus produces no characteristic symptoms and little or no distress. When there are symptoms associated with a retroflexed uterus complications of any of the organs of the lower abdomen may be expected. Therefore, retroflexion should be investigated very carefully before operation is done.

Ovarian transplantation has been revised and brought up to date by Martin. However, it is a serious question to my mind whether transplanting an ovary is ever justifiable, since after being transplanted they usually swell and give considerable trouble in their new surroundings.

It seems the consensus of opinion that hemografting and heterografting are failures because there seems to be antagonism between different individuals of the same species. Auto-transplantation is the best because it retards menopause which usually occurs after castration.

CONCLUSION.

First, deep X-ray treatment which apparently promised so much a couple of

years ago, is evidently losing some of its favor, for now the majority of cases we thought it was curing are dying at a rapid rate.

Second, early cases of carcinoma of cervix are probably most successfully treated first by radiation, followed by hysterectomy; late cases by the use of radium alone.

Third, fibroids of uterus are probably best treated by hysterectomy because only the intramural type is amenable to radium, and it is often very difficult to distinguish this type from others.

DISCUSSION.

Dr. S. W. Boyce (Shreveport): The essayist has brought to our attention a reconsideration of the problems which confront us in dealing with the pathology arising in the organs of the female pelvis. From our repeated study of these problems they appear to us as the English alphabet, yet when we consider the percentage of our ultimate cures and failures of these pathological states, these problems appear as a great unscaled peak. There are many complicating factors which make the satisfactory handling of these conditions still one of our unsolved tasks, I feel that the larger part can be charged to the carelessness and lack of education on the part of the lay public. While a certain part may justly be charged to our own lack of systematic and uniform method of handling the definite clinical factors as we find it. When we come to consider carcinoma of the uterus and cervix we recall how a few years or months since when the lay press in its enthusiasm for news and things spectacular heralded X-ray and radium as the great heal-all to save humanity from the scourge of cancer. We allowed their enthusiasm and other considerations, probably more pecuniary, to sweep us into an unlimited use and recommendation of these remedies. I feel that our ardor has been dampened and we are now prepared to give these agents their proportionate place in our armamentarium for fighting malignant changes under consideration.

We now have surgery, X-ray and radium and the electric or thermo-cautery as our agents for attacking this problem. At first thought it would seem that a complete surgical removal of a malignancy would be the ideal in the treatment, but with this we must consider the primary mortality of 20%, on the other hand where we use X-ray and radium or the actual cautery, the primary

death rate is practically nil; this, too, would appear to be perfection itself, but here, too, we must admit that, for some reason thus far not clearly understood, some cases fail to respond satisfactorily, and the final death rate is still far above what we might hope to attain. It would be monotonous for me to discuss here the specific types of cases with this special treatment. So again we will revert to that twice-honored practice where each individual case is a problem unto itself, which must be solved by a happy combination of the innate surgical judgment coupled with a proper estimation of the values of our different methods of treatment and unbiased by our overzealous enthusiasm for any particular one of them.

And we are told that retroversion produces no symptoms, but to everyone of us upon whom devolves the responsibility of being the doctor for the entire family all the time, this is either the diagnosis or one of the symptoms in a complex which is the nightmare of our whole existence. Retroversion may be symptomless, but, like the stork, it is too often with the crows. It may be harmless but is too frequent in the neurotic undernourished mother who has had four or five babies in rapid succession and whose many aches and ills are the bane of the existence of her family doctor. She has general debility, retroversion, probably some endocrine dyscrasia, a dissatisfied disposition, etc., all of which are thrust upon the guardian of all the family ills and he is expected to deliver.

A round ligament suspension will cure some of these. It has done so often in my hands. I regret to admit that in desperation to relieve a complete invalidism, I have resorted to a removal of all organ above the cervix and effected a symptomless cure. We are told that retroversion is symptomless and surgery is to be avoided, and I frankly admit that any surgeon who indiscriminately operates this type of case takes his reputation in his own hands, and should he fail to relieve, is subject to an endless chain of bad advertising. But what are we to do? All the discussion and admonition is what not to do, and we are left in this dilemma. Retroversion is one part or is the foundation of a complex syndrome which is one of the greatest problems in the practice of medicine today.

THE BODY SURFACE AS A PROMISING FIELD FOR THE PREVENTION OF DISEASE.*

R. W. HALL, M. D.,
JACKSON, MISS.

Distinct progress in any particular field of scientific endeavor can usually date its origin to some outstanding discovery or scientific fact that opens the way to new achievements. Even so with the ever-forward step of the medical profession, in that every new remedial agent or surgical principle finds its application throughout the entire field of therapeutic uses, its real merit to stand or fall as it withstands the scrutiny of conscientious observers. The ever alert and progressive physician is constantly watching and endeavoring to bring to his field of daily activities every promising remedial agency, if by so doing he may advance a bit closer the ideal in the practice of medicine.

All have observed that of late years there have been incorporated within our armory, and it might be added, to stay, certain therapeutic measures in the form of actinic, electric, radio-active, sero-, glandular, and even other agents, making many new angles of approach to clinical entities heretofore largely evaded for lack of more dependable remedial procedures. In advance of former methods, conceptions of numerous toxic substances, largely individual in character, which have been the riddle of every type of practitioner, both with reference to etiology and cure, have become the object of constant study and investigation, with the result that much information is now available in meeting certain professional demands with many dermatoses, heretofore a closed door. Also an ever-widening field of interest and study is being directed to certain internal secretions with reference to their practical workings in health and disease, to the extent that the modern

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physician employs in his daily practice formulae applicable to diseases that affect, or result as a lack, of proper functioning of these important glands.

We might ask what these have to do with the prevention and relief of diseases that affect the body surface. Much indeed when the full significance of the body integument is estimated, since more or less recent researches have brought within the scope of modern medicine therapeutic measures heretofore unavailable for their proper supervision and successful eradication. This organ, the skin, has a manifold function. It stands as a barrier protecting the less defensive structures of the whole against infective processes, any part of which once diseased, may be repaired with difficulty. It acts also as a mirror, reflecting to the clinician pathology often hidden deep in the organic life of the individual and is also the deposit and unwelcome host for hundreds of affections, reflecting many disease entities, all of which must be individually diagnosed and treated. It should be remembered that the longer such pathology remains, the more seriously it impairs the body surface and the less resistant are nature's barriers in its defenses against subsequent attacks.

In the light of our present knowledge, let us look, if we may, a little deeper into certain conditions that suggest or offer relief, primarily and ultimately, to patients presenting cutaneous potentialities, bearing in mind of course that fundamental knowledge or diagnostic ability is indispensable, if we would interpret properly such body phenomena. In the case of the child, every physician knows that many infantile skin lesions are discovered, which if the causal factors are known and removed, give to the patient not only absence of the present illness, but less opportunity for future implantation of infectious agencies. Skin affections in infantile life should be regarded seriously. When the surgeon opens the tissues, every aseptic precaution is

taken for safe-guarding the inroads of pathogenic processes due to exposure of vulnerable parts. Why not consider the result with relative seriousness in open dermatological cases, many of which lay bare the defenseless tissues to the invasion of the same dangers, with the addition that the exposure remains open for weeks and even months at times, absorbing such contaminations as may be lodged within its folds. Our caution is, therefore, that obviously the initial step in many mysterious future phenomena result from neglect of such conditions and play a large role in determining the health history of many individuals. To indicate more fully the purpose of this paper, it might be well to select a certain familiar disease and examine its untoward possibilities and evaluate the rewards resulting from their removal. All are familiar with infantile eczema, an acute or chronic inflammatory disease, and one of doubtless wide causal factors. The later modes of study aid us materially in its proper interpretation and relief. As to causal factors, every consideration is due the patient, including a study of all probable causes as a multiplicity of diseases may be evaded for a life-time thereby. In this particular condition the individual skin characteristics are first to be considered. Individuals vary widely. The blonde presents problems with the dermatologist not to be considered in the darker types. Other skin characteristics as indicated by the erythema pigmentosa type should be given critical interpretation. Forty-eight per cent of all eczema cases are from a parentage similarly diseased. Hence an accurate estimate of the skin as to texture and predisposing factors is most important, since the erroneous use of bathing and cleansing the skin with harmful agents may be the only etiological factor, the correction of which meets all therapeutic demands. Again bacterial infection is regarded as causal in many cases. The monococcus, the bottle-bacillus, and others are found in many cases. If such can be demonstrated

as causal, it should not escape the observation of the diagnostician. Others regard external irritation as the chief or only cause of infantile eczema, such irritation being either thermic, mechanical, or chemical, and if so, this knowledge will be of inestimable value to the patient in order that such agents may be removed. It is also probable that a deviation from the normal in the blood chemistry, known also as sensitization to foreign proteins, may be the offending substance. Since the patient may face a problem of a life-time, he is justly entitled to all the profession can offer in the prevention of his disease, the knowledge of the cause being the only answer. If an individual should be found to possess intolerance to certain toxic substances, it is the part of the physician to provide the patient with such knowledge that it may guide him in evading such hazards. It is as important, therefore, to know his intolerance to a list of foods, pollens, metals, chemicals, or drugs, as that he should know the result should he handle poison ivy, poison oak or quinine, if sensitive to these substances. While the physician may not be quite as exact in his knowledge of these findings, yet his best efforts will be amply rewarded.

In later life many similar conditions present themselves offering opportunities of removal by proper preventive measures. The erythemas, neurodermatoses, haemorrhageas, sebaceous, or glandular dysfunctions, urticaria, acne, furunculosis, eczematoid dermatitis, acute and chronic, etc., etc., all have causal factors, which, if known, may be removed and which will result in the subsequent control of a train of symptoms. These may have direct bearing in fact on certain essential skin functions. For example, seborrhoea is a condition of wide potentialities. The skin is a regulator of heat, respiration, absorption, and sense. Seborrhoea, either local or generalized, has the possibility of exerting a detrimental influence to the body welfare, which, if but removed early, will result beneficially to the individual. There are also many skin dis-

eases that are of exceedingly chronic nature offering the most favorable responses to treatment in proportion to the date of treatment, the earlier, the better the results: psoriasis, for example. These lesions, when few in number, especially if still recurrent seasonally, may be removed without difficulty. However, with the old hardened cases much less may be promised even from our most approved methods of treatment.

But lastly, and possibly of greater importance is surface or epithelial growths, benign in character primarily, but having the possibility of malignant development. This list is a large one. It maybe an apparently insignificant fissure of the lip, pigmented or unpigmented mole, wart, keratotic or seborrhoeic deposits, scar, or any form of surface blemish, which may be permitted to remain, particularly if in such condition as to harbor a low grade of inflammation or constantly undergoing mechanical injury. These are the source, and in fact the only source, of surface malignancies. "No pre-existing abnormal deposit, no cancer," is a statement fortified with high authority. Every physician sees these abnormal deposits and growths daily on the face and body integument of his patients. The individual antagonizes them constantly by mechanical irritation in many cases, often for half a life-time, and yet hesitates to remove them. Why? The false notion of the public that to disturb them in any way results in cancer is the only answer given. The correction of this error is a problem for the medical profession. It is not justifiable conservatism to wait until these precancerous growths show sensation, pigmentation, or color changes. The elimination of surface cancer will never be solved until the laity is convinced that all superficial blemishes of every kind are cancerous potentialities, and that their duty is to regard them seriously until removed. The writer believes that cancer is the result of cell environment. At least this is a good working hypothesis. The normal body cell has no ability to depart from normal cell

growth as long as the cell environment is homogeneous. However, when in close proximity with cells of different character which are attempting to reproduce themselves by the appropriation of more or less interchangeable substances, a third or mixed type of cell life is formed, a fusion, so to speak, due to cell environment. The new growth partakes of the characteristics represented in the types of tissue growth from which they originate, and constitute, of course, a spurious type of cell growth corresponding identically with neither of the original types. This has been termed the malignant cell. If this is correct, then what is the answer to all surface cancer? Simply the removal of *all* epithelial deposits and the conversion of the remaining tissue structure to one form of cell life only. Many methods may be used to accomplish this purpose, each to be selected and used as the individual condition warrants. It may be said also that this is practically without danger—less danger than are so many mechanical abrasions of equal size inflicted elsewhere on the body surface. This presupposes that the physician has due knowledge and regard for tumor differentiation. In other words, any lesion until the malignant cell change has occurred, may be handled with as little impunity as any other structure, provided there does not remain in the tissues any surviving cell life of the tumor removed. Emphasis is placed on removing from the public mind the popular idea that removal of pre-cancerous growths results in immediate malignancy. This responsibility lies solely with the physician, and the sooner he assumes it, and discharges it, so soon will the mortality from surface cancer fall to the minimum.

It is a responsibility without question that the physician assume the role of health guidance with his clients. This is no less binding and obligatory than that of combating impending ills. All are apostles of better health and happiness. To warn them of any preventable health hazard, or to give

counsel in matters where the return of present ills may be thwarted, is inherent in every professional service rendered. May this very dry paper, which merely hints at the magnitude of its importance, guide us more definitely in the consideration of body surface healthfulness, even if apparently momentous or trivial, immediate or remote.

DISCUSSION.

Dr. Ross E. Anderson (Jackson): You have just heard a very fine paper. It was written by one of Mississippi's ablest men. I have wondered the last few days just why I was called upon to open the discussion of this paper, since I myself am doing eye, ear, nose and throat work. I can only discuss it as it affects me in my work. In eye, ear, nose and throat work we have certain skin disorders about the inner and outer canthi of the eye, the eyelids, about the orifices of the ear and nose. We see old chronic sores, warts, moles, nevi, etc. These conditions, if allowed to remain untreated, may give rise to cancer. No one knows the cause of cancer. That is something that medicine will yet discover. Whatever the cause of cancer may be, I believe that long-continued, low grade irritation certainly has something to do with its etiology. These conditions such as warts, moles, chronic sores, by causing low grade irritation over a long period of time may have something to do with the cause of cancer. When I have to deal with a condition of this kind I try to remove it as early as possible lest it result in malignancy. I think this is quite the proper thing to do.

I enjoyed this paper. It covers in a sense every branch of medicine. Every branch of medicine has skin disorders, but I can only try to discuss it from my viewpoint.

Dr. D. W. Jones (Jackson): We appreciate Dr. Hall very much here. Hardly a week passes that I do not find occasion in my work with children to send a patient to Dr. Hall for diagnosis of some skin condition, giving me a line on the internal condition of the patient with reference to diet, etc.

I had a patient I sent over one day and Dr. Hall charged a pretty stiff fee. I saw the prescription he wrote and memorized it. Soon I had another case just like it, so I gave the same treatment, but it did not cure the patient and I had to take her to Dr. Hall. He gave another prescription, and I said to him, "See here, Dr. Hall, how is it that you give a different prescription? This case is exactly similar to the

other." He said, "No; this is a different type. The other was a brunette and this is a blonde."

Dr. W. A. Dearman (Long Beach): I do not know that I ever had such a harvest of urticaria as we have had this year. I have made, I do not know how many, protein tests in people that I thought were sensitized to certain proteins, but if I have gotten a satisfactory response to a skin test I have not been able to interpret it. We need the dermatologist. I do not know another man in the State of Mississippi who confines his practice chiefly to dermatology. It is a highly specialized branch of medicine.

The chronic skin disorders are very stubborn and Dr. Hall has brought out the underlying manifestations due to endocrine imbalance and to all kinds of toxic factors anywhere from cat hair to oatmeal. We need the dermatologist to give us the classification of the cutaneous disorders. Sometimes it is hard to diagnose scabies in a clean human being. I look after about 180 pretty college girls, and it is hard to account for scabies there, indeed, it is humiliating to make the diagnosis. I think it is time we had an occasional paper impressing upon us some of the more outstanding etiological manifestations, the clinical manifestations, and the diagnosis and treatment of skin disorders that come under our observation.

Dr. R. W. Hall (closing): I feel as though I have presented this subject in a rather unsatisfactory way. I want to make this statement—I do not do so critically—but in the cases I have seen I find the majority of them that have had treatment have been over-treated, not under-treated. The initial prescription written for a dermatological case is the most important. The evaluation of the type of skin must be considered. The physician must evaluate every item in the prescription, and it must be suited to the individual case. Otherwise, more harm than good is often done.

Sensitization was mentioned by Dr. Dearman. That covers a very wide field. Let me give you an illustration. A doctor in this city came to me recently and said, "Doctor, look at these rings around my wrists." He had some erythematous rings around both wrists. He said he had them every summer and they were getting deeper and he was worried about them. I knew it was some kind of sensitization problem, so I asked him where he had his laundry done, and then called up that laundryman and asked him how they treated cuffs that were done up in that laundry. He said that usually the perspiration is so hard to remove that they use a very strong

alkali to remove it from the margin of the cuffs, although the rest of the garment does not get the same treatment. You can see what was the trouble. That strong alkali used to cleanse the border of the cuff had come in contact with the perspiration of the arm in summer and produced an irritation.

That is the key to the argument I am trying to bring. Catch these dermatological conditions early because it is the long delay that causes trouble. Hunt for the hidden things that are the cause of most of our chronic skin conditions.

A METHOD FOR THE ROUTINE EXAMINATION OF FECES FOR THE OVA OF PARASITIC WORMS AND ENCYSTED AMEBAS.*

F. M. JOHNS, M. D.,

NEW ORLEANS.

Amebic dysentery represents the acute form of ulcerative colitis caused by the growth and reproduction of the *endameba dysenteriae* in the sub-mucosal tissues of the colon and rectum. The clinical course of most infections is marked by spontaneous or induced remissions, during which time the bowel movements may be normal or lessened. It is also noteworthy that the disease is usually more severe in the dependent parts of the large bowel, and there seems to be a tendency for the ulcerations to localize in such dependent parts as the cecum or rectum, and the symptomatology of a given patient depends largely upon the size and localization of the infection. Diarrhea or frequent small bloody-mucoid stools are dependent largely upon infestation of the rectum, while if the disease is localized in the neighborhood of the cecum, the general symptoms are those of a chronic appendicitis, and the bowel move-

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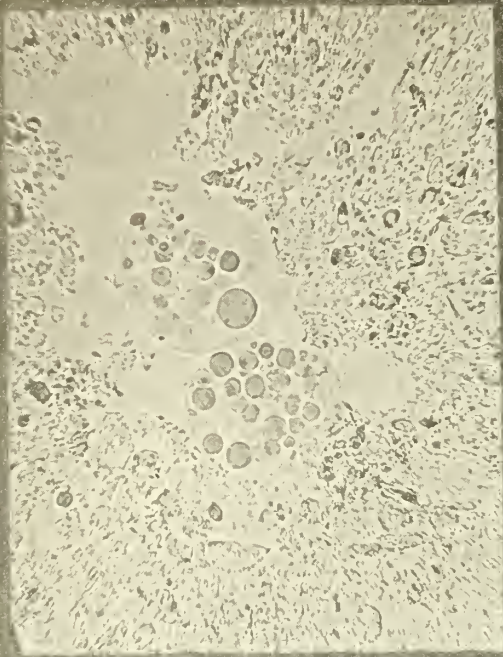
†From the Laboratory of Clinical Medicine, Tulane University of Louisiana.

ments are not necessarily disturbed. The pathogenic ameba is now supposed to reproduce vegetatively only within the tissues of the host and it is not always possible to detect the presence of an infection by stool examination. If the lesions are in the rectum and lower sigmoid, the bloody mucus as passed directly from the patient or of material removed from the lesions by proctoscopy when examined for the actively motile vegetative amebas offers the best means of diagnosing their presence. (See Fig. 1.) If the lesions in the cecum or transverse colon allow of the escape of vegetative amebas from the lesion, these wander out into the liquid stool. As the fecal mass passes down the large bowel, becoming dehydrated and finally assuming the formed consistency, we find that the amebas have likewise decreased in size, lost motility, become oval or round in shape, elaborate a protective covering and we have the encysted type of ameba present in the stool. (See Figs. 2 to 6.) Encysted amebas are thus usually found only in formed or semi-formed stools and denote an infection high up in the large bowel.

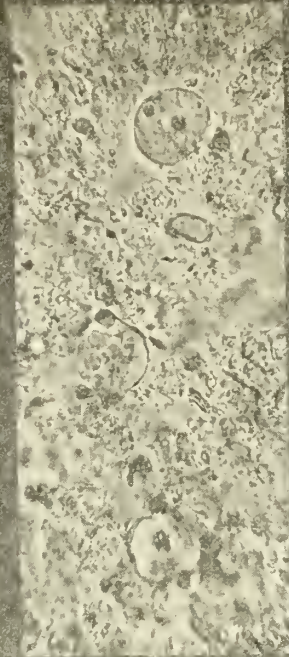
The generally recommended methods employed in the search for the presence or absence of encysted amebas in such stools utilized a simple dilution of feces with water and an eosin-iodine stain to serve as contrast. These methods are open to several disadvantages, notable among which are: (1) Lack of concentration; (2) the necessity of using very thin dilutions on account of the cloudiness caused by enormous numbers of bacteria; (3) the penetration of the contrast stain into the cysts within a few minutes, thus rendering them more obscure; and (4) the necessity for a specialized examination.

By the use of the centrifuge on watery suspensions of the feces it was found that encysted amebas were sedimented in about one-third longer time than is required to throw down the ova of parasitic worms. The centrifuged preparations show the usual 8 to 10 time concentration of ova, 2 to 3 time concentration of cysts and by clearing the specimen of bacteria and other small particles renders the appearance of cysts much easier of identification with the low magnification of the microscope, thus combining the two examinations (Figs. 7 and 8). If cysts are present, the further identification of the type by means of the iodine staining of the nuclei is much easier of accomplishment in the washed and concentrated material.

Method—Formed or semi-solid stools are diluted from 10 to 15 times with water, shaken well and strained through two layers of cheesecloth directly into a 12x115 mm. ($\frac{1}{2}$ x4 inch) round bottom tube. Balance tube in centrifuge. (This should be equipped with Cornell shields and should be able to run at least 1500 r.p.m.). Start centrifuge and immediately advance to full speed of 1500 r.p.m. Shut off power within 15 to 20 seconds after advancing the speed. Pour off the supernatant liquid, resuspend sediment with water and recentrifuge. (Another such washing will frequently clear the sediment still more.) Decant again, leaving a few drops of water to shake up the sediment with. Pour on slide and spread out to where all particles on the slide are easily visible under the low dry lens and examine as for parasite ova. The relative size of cysts as compared to the ova of *uncinaria americana* and *trichuris trichiura* are shown in Figs. 9 and 10.



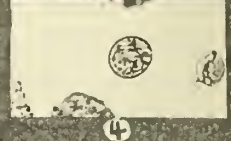
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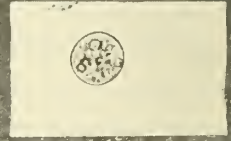
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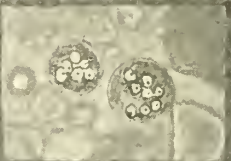
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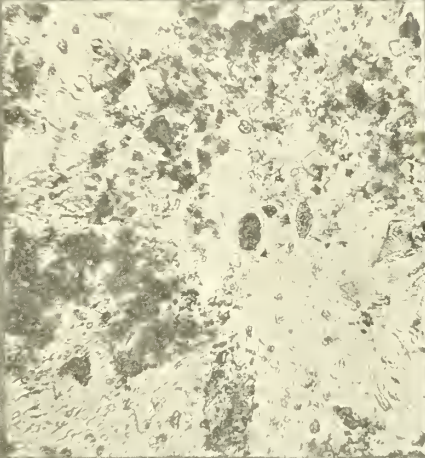
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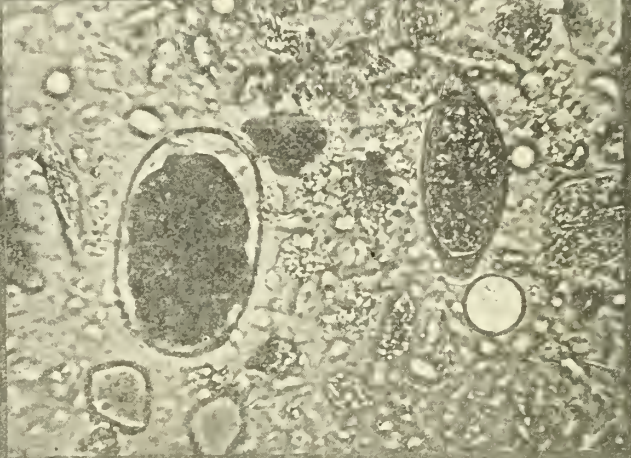
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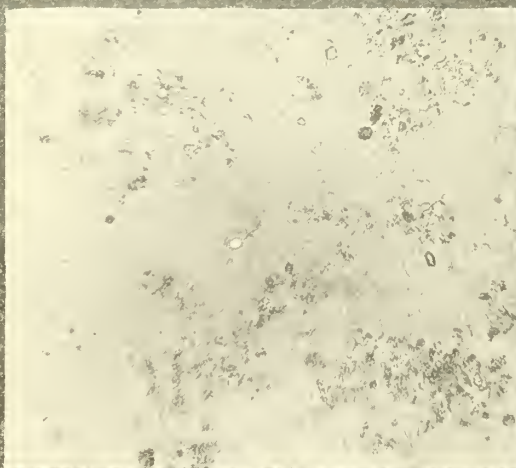
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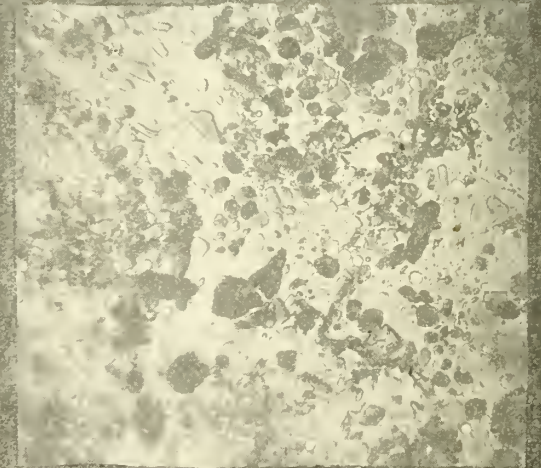
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EXPLANATION OF PLATE.

Fig. 1. Vegetative forms of *endameba dysenteriae* as found in bloody-mucoid stool.

Fig. 2. Precystic amebas found in soft stools.

Figs. 3-4-5. One, two and four nucleated cysts of *endameba dysenteriae* from formed stools.

Fig. 6. Eight nucleated cysts of large non-pathogenic *endameba coli*.

(All of the above taken with the usual "high dry" magnification.)

Fig. 7. Low dry field of plain diluted feces showing several cysts.

Fig. 8. Low dry field of same specimen after centrifuge concentration of cysts.

Figs. 9-10. Low and high dry magnification of amebic cysts and ova of hookworm and whipworm.

DISCUSSION.

Dr. D. N. Silverman (New Orleans): Heretofore we have been accustomed to routine examination of the solid part of the stool for the cysts of ameba, but I think the additional technic of Dr. Johns will have twofold benefit. One is that with the routine examination as is the custom for ova, we shall also be enabled at the same time to look for the cysts of ameba. The other is, of course, with the opportunity of examining more frequently in that way for the cyst, the making of diagnosis more often.

The importance of examining stools for the cysts of ameba, etc., cannot be stressed too forcibly. Cases of the metastasis of the endameba from the bowel to various organs of the body are not accompanied by a history of dysentery in some fifty per cent of the cases. The places of metastasis of ameba have been in the brain, the liver, and often found in the epidermis and testes. I want to say that the recovery of the cysts from the stool will very often make a diagnosis of a condition such as hepatitis, abscess of the liver, whereas no definite information other than the finding of these cysts can be had.

I want to say a word in defense of the surgeon, however, in removing some of the gall bladders, especially those that are affected, in cases of ameba dysentery. In amebic dysentery, like other forms of colitis, there is a free dispo-

sition on the part of the biliary tract to infection and I have seen gall bladders that were chronically infected removed and it proved to be chronic infection. These gall bladders were not unnecessarily removed in such instances, although the present disposing factor was amebiasis.

INFANT MORTALITY FOR 1925.

The report of infant mortality for 1925 published by the American Child Health Association is compiled from figures applying to 632 of the 641 cities in the birth registration area, and from records of sixty-five of the seventy-five cities in the death registration area only. The infant mortality rate is the number of deaths under one year of age per thousand births, exclusive of stillbirths. In 1924 the infant mortality rate for cities in the birth registration area was 72.2, the lowest on record; for 1925, the figure was 72.6. Stonington, Conn., and Winona, Minn., presented the lowest village infant mortality on record, with rates of 32. In 1920 these two communities had populations less than 25,000. New York, where the infant mortality was 64, had the lowest rate among the ten largest cities of the country. Although this is double the proportion of deaths found in the small communities of Stonington and Winona, as a group the larger cities have lower rates than those of small size. For more than four years, Seattle has maintained the lowest rate for cities in the birth registration area, which in 1920 had a population of at least 250,000. The infant mortality in Seattle in 1925 was 45. In the death registration area, the lowest infant mortality rate, 57, was attained by Boise City, Idaho. These are crude rates, to be sure, and crude rates are somewhat unjust, since they do not take into account such influences as economic status, climate, race and nativity stock. In Southern cities, for instance, infant mortality rates are greatly increased by the relatively large number of infant deaths among the negroes. Within individual communities, nevertheless, the trend of the infant mortality rate is a valuable index of the efficacy of local measures. Corrected rates, with their wider significance, will be available as soon as all communities secure reasonably accurate registration of births and deaths. With this in view, the American Child Health Association "strongly supports the government's efforts to have the entire country within the birth registration area by 1930, for it feels that a complete record of births and deaths is essential for the carrying out of an effective child health program."—*Jour. A. M. A.*, Aug. 14, 1926.

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A NEW ORLEANS PHYSICIAN.

In 1883, George W. Cable published a story entitled *Dr. Sevier*, the setting of which was the New Orleans of 1856, the town he knew and loved the best. Like a kindly and omnipresent godfather, the physician whom he created as the leading character in the dramatic narrative of the South, pervades the tale prominently with his benevolent and humane considerations.

The office in which he "waged war against malady" was located on Carondelet Street, where the Stock Exchange thrived, and where men congregated who "could best afford to pay for being sick, and least desired to die." Conveniently

situated nearby was the great Charity Hospital of St. Charles, where the doctor "filled the chair set apart to the holy ailments of maternity."

Not a saintly physician enshrined upon a pedestal, he nevertheless "stood up straight in his austere pure-mindedness, tall, slender, pale, sharp of voice, keen of glance, stern in judgment, aggressive in debate, and fixedly untender, except—but always except—in the sick chamber." He was, apparently, beloved by all, and highly respected; a genuine aid in distress and suffering, but withal, paradoxically, a strictly practical practitioner.

Throughout the book, as Dr. Sevier is visualized in his various professional moments, a striking portrait is presented of his personality and character. As the story opens, he is seen at the bedside of an ailing woman, where, as the author shrewdly declares, the healer often finds himself "the tardy attendant of offended nature." During a devastating epidemic of a pestilence, perhaps the yellow fever, he is sketched as the forward-looking and sane hygienist. In his office, and on the street, he is revealed as the true friend and confidant of man. And as he sojourns through the wards of his hospital, he becomes the stern, yet inspiring instructor of the young students of medicine.

Lest any opprobrium or disrepute be cast upon the Charity Hospital, an institution which was famed as far as the city itself, the author took deliberate pains to assert that it was far from being a "plague-house." And, as he added:

"How good or necessary such modern innovations as 'ridge ventilation,' 'movable bases,' the 'pavilion plan,' 'trained nurses,' etc., may be, let the Auxiliary Sanitary Association say. There it stands as of old, innocent of all sins that may be involved in any of these changes, rising story over story, up and up: here a ward for poisonous fevers, and there a ward for acute surgical cases: here a story full of simple ail-

ments, and there a ward specially set aside for women."

It was along the "long sanded aisles" of this latter ward that Dr. Sevier could be heard discussing with his students affairs of current interest, in addition to the details of his cases. And as public matters always aroused him, he would frequently give vent to his opinions of the horrible conditions existing in New Orleans, where, he observed, "malaria is king," and "beckons in consumption."

The interesting circumstances unfolded by the novelist are decidedly enhanced by his sincere delineation of this southern physician, whose role in life no less than in fiction is thus aptly summarized:

"A physician's way through the world is paved with these broken bits of other's lives, of all colors and all degrees of beauty. In his reminiscences, when he can do no better, he gathers them up, and turning them over and over in the darkened chamber of his retrospection, he sees patterns of delight lit up by the softened rays of by-gone times."

How well Dr. Sevier garnered the fragments that were cast into his path has been tellingly described by the masterful pen of George W. Cable.

FACTIONS AND MEDICAL SOCIETIES.

The election of officers of a medical society logically and obviously brings about a division of the membership into two or more groups. It is but right and proper that scientific achievement and service to the organization be rewarded by the bestowal of a position of honor. It is but natural that there be difference of opinion as to the abilities and as to the deserts of the candidates.

But there is a tendency to argue that because the president of a state medical society lived in one part of the state that his successor should be chosen from among those living in another section of the state.

Manifestly the geography of the state has nothing to do with the professional and scientific ability of a physician. It is equally obvious that he may render efficient and untiring service to the organization regardless of the point of the compass from which he hails. Sectionalism and factionalism favor the choosing of men of lesser ability. If we are to see our societies grow in breadth and in service to the public let us get rid of factionalism.

METHODISTS PLAN HOSPITAL.

Dr. C. C. Jarrell, secretary of the Methodist general hospital board, with headquarters in Atlanta, recently spent several days in New Orleans conferring with a committee in order that plans might be formulated for the locating of a Methodist hospital here.

The general conference has named New Orleans as a suitable site for a great general hospital to represent the Southern Methodist church and promises its support of such an enterprise. Dr. Jarrell declares that the commercial importance of New Orleans and its honored and famed medical talent makes it a strategic place for such an institution. It is indicated that there is no question about this hospital being erected if the city and state will give the proper support.

It is proposed to build the hospital in units, the first of which would contain 100 to 150 beds. Later other units of similar size would be added. Such an institution should be welcomed by the profession and we trust the Louisiana conference, which meets in November, will take favorable action in this regard.

INSPECTED OYSTERS.

Cleanliness and safety of food supplies are matters of constant interest and importance, particularly so in the case of foods which are commonly eaten raw, or cooked in a way which may not sterilize.

Oysters are an example of such a food and with the coming of the "R" months, a review of what is being done to ensure the safety of the oyster supply seems pertinent.

Frequent inspections are made by the Louisiana State Board of Health to ensure sanitation of the oyster beds, the safety of the water in which they are grown and general conditions of the plants. The work is done by means of a special laboratory boat built for the purpose.

Shucking and packing plants are required to be screened, to have well drained concrete floors, adequate supplies of clean cold water and of hot water for cleaning and sterilizing utensils, and proper lavatory and toilet facilities; employees must have certificates of medical inspection.

Containers in which oysters are packed and shipped are required to be marked with the identification mark of packer.

Oyster boats are required to be kept clean and tight to avoid contamination by bilge water.

The State Board of Health issues from time to time lists of approved plants. The consumer can assist in securing protection for himself by seeing that his dealer handles only oysters from approved plants.

CORRESPONDENCE.

To the Editor:

In September, 1925, a young girl in my employ had her tonsils removed by one of our most prominent otologists, and in the operating room of one of our leading hospitals.

Whereas, up to the moment of her taking the anesthesia (ether), she had never appreciated the fact that she had ears—that is, as far as having them give her any trouble was concerned—the moment she regained consciousness after this operation, her ears ached, and the pain continued.

Days and weeks passed, and notwithstanding the fact that her physician told her that there was absolutely nothing the matter with her ears, *they hurt her all the same*, at times, and quite frequently.

One day she reported this fact to me. That the pain was getting worse, and the paroxysms more frequent, and that *her doctor wasn't doing anything more for her*.

Of course, this did not sound good to me. A patient suffering and nothing being done to relieve her, so I decided to send her to another otologist.

Now, of course, in a big town like this, there is no one specialist who is better than all the rest, but if I were to ask you to name three of the specialists who rank the highest in this city, I am sure that the name of the one to whom I sent her would be among these three.

Now he was "busy", so his perfectly competent assistant undertook her case and *treated her for two weeks*. At the end of this time he had not found the cause of her trouble, his *treatment* had produced no results, and as he could find nothing the matter with her ears, he told her that she imagined that they hurt her (consoling, was it not?).

By this time, there were periods during which she became almost frantic. She had been in my employ for three years, and I had always found her a pretty good worker, and always on the job. So when two more weeks passed and the pain grew worse, I sent her back to my friend and asked *him* to take her in charge, himself, as his assistant could give her no relief, and I stressed the point that she must get relief at any cost. She just couldn't keep on in this way.

Upon examining the ears he said they were normal. He *treated* her for two weeks during which time she was unable to work, the pain was so severe. At the end of these two weeks he said she must be suffering from some focus of infection, and suggested that she have her head x-rayed. She went to one of our leading Roengenologists

who X-rayed her head and found that the right antrum did not look clear. This was opened into and declared to be all right—no pus being found. Pain continued.

Next I sent her to one of our leading internists who “looked her over”—nothing doing. Perfectly good condition—but she was suffering all the same.

Next our otologist suggested that she have her eyes examined, so she went to one of our very best men, and he reported that her glasses were correct. Pain continued.

Again, my friend suggested a focus of infection. Well as there was no one else to send her to, she had “been the rounds,” I called him up and said, “You think that Miss Irma’s trouble can be caused by infection?” “Yes, I do.” “Well she has one doubtful tooth, and as she is in a very bad way—suffering right along—I’ll take this out, but I’ll tell you in advance, I don’t think it will help.”

Something had to be done. One after another, of these specialists had seen her and either had refused to do anything for her or said there was nothing the matter with her, so it really was up to me.

I said, “Suffering as you are, and no one being able to do anything to relieve you, I think we should take a chance on that doubtful tooth,” and she would have had all of her teeth removed, if that would

have given her relief, because she certainly was in a bad way.

Well, I extracted the tooth and it proved to be just one more tooth offered up upon the altar of ignorance. I declare, I did not know what to do for her. I was at the “end of the rope.” Then I thought of Dr. Matas—my good friend, Matas.

I went to him and related the history of the girl. Was he interested? He surely was. Let her come to see him at once.

She went. He went over her case carefully. He gave her a prescription, and he told her what to do. He certainly did give her *intensive treatment* all right.

Will miracles never cease? Would you believe it? In a week she was much better. She continued to improve rapidly, and was soon free from all pain. At this writing she has not known for over three months that she has ears.

Now here’s what I’d like to know. Having gone for several months to all of these best specialists in town, who could do absolutely nothing for her, and just told her that her pain was imaginary, howinell could Dr. Matas—a *mere surgeon*—recognize the cause of the *ear trouble* and cure her right away, the very first dash out of the box? Rather *uncanny*, was it not? Can some one explain?

C. EDMUND KELLS.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

LAFOURCHE VALLEY MEDICAL SOCIETY.

The Lafourche Valley Medical Society was entertained by the medical profession of Donaldsonville on Aug. 11, 1926. The scientific and business meeting was held in the Elks' Home. Papers were read by Dr. J. Boulet, on "Ectopic Pregnancy," and Dr. H. A. Folse on "Amoebic Dysentery." These papers were excellent and were thoroughly discussed. After the business meeting, the members retired to Hotel Donaldson, where a sumptuous banquet was enjoyed. The next meeting of the Society will be held in Lockport.

THIRD DISTRICT MEDICAL SOCIETY.

The Third District Medical Society was entertained by the medical fraternity of Abbeville, on Wednesday, July 28, 1926. The attendance was large and the gathering enthusiastic. Scientific Program: "Case Reports," Dr. L. B. Crawford, Patterson; "The General Practitioner and the X-Ray," Dr. G. C. McKinney, Lake Charles. Discussions were general and thorough. Abbeville distinguished itself forever in the minds of those who enjoyed the wonderful banquet that was given in the W. O. W. Hall. The menu was a "chef d'oeuvre."

BULLETIN

TUBERCULOSIS AND PUBLIC HEALTH ASSOCIATION OF LOUISIANA.

The fifth conference of the International Union Against Tuberculosis will be held in Washington, D. C., from September 30th to October 2nd, 1926, preceding the twenty-second annual meeting of the National Tuberculosis Association, which will be held from October 4th to 7th.

Headquarters for the annual meeting have been fixed at the Mayflower—Washington's newest hotel. Reservations should be made well in advance of the meeting.

It is anticipated that in quality of material to be presented this international meeting of the National Tuberculosis Association will excel any similar gathering since the International Congress on Tuberculosis of 1908.

Listed among the speakers are such world-wide medical authorities as Rabinowitsch-Kemper of Germany, Rist of Paris, Bernard of Paris, Ascoli of Italy, Archibald of Canada, and many others.

The sessions of the National Tuberculosis Association are open to all persons interested. The

sessions of the International Union Against Tuberculosis are open only to members. Dues for membership in the International Union are \$2.00 for the year 1926 and in addition \$5.00 for membership in the National Association. Check should be made to the order of H. B. Platt, treasurer, National Tuberculosis Association, 370 Seventh Avenue, New York City.

The railroads offer quite attractive rates for a thirty-day round trip ticket, and ample hotel accommodations can easily be arranged by communicating with any of the several hotels in Washington.

The Tuberculosis & Public Health Association of Louisiana has a representative director, Dr. C. V. Unsworth, who is entitled to attend the meetings of the board of directors of the National Tuberculosis Association, and our association has been further honored by the appointment of its president, Dr. W. H. Seemann, to serve as a member of the reception committee to the members of the International Union.

We hope that a good attendance will be had from among our Louisiana workers.

For full particulars regarding the meetings, and for hotel rates, you are urged to communicate at once with the National Tuberculosis Association, 370 Seventh Avenue, New York City. This office will be glad to furnish any information available from this end.

DR. HELEN HINTON.

It is with regret that we learn of the death of Dr. Helen Hinton of Shreveport, on August sixth. Dr. Hinton was a native of Lumberton, Mississippi. She graduated from Newcomb College in 1908, and from Tulane medical school in 1922. She served her internship at the Woman's Medical College Hospital, in Philadelphia, 1922-24, after which she was Resident Physician in the Beebe Hospital, Lewes, Delaware, 1924-25. She came South in the Spring of 1925, and located in Shreveport, where she was engaged in general practice. Dr. Hinton was a member of the Stars and Bars, and the Alpha Omega Alpha Fraternity, as well as the Shreveport Medical Society and the Louisiana State Medical Society. She died at the age of 38, in Touro Infirmary, New Orleans, after several weeks' illness, and was buried at Macomb, Miss.

Dr. H. R. Unsworth has accepted an appointment in the Neuro-Psychiatric Division of the St. Elizabeth's Hospital, under Dr. W. A. White, where he will devote his special studies for one year to Neuro-Psychiatry.

"ALMA MATER HOME COMING."

*The Ensworth-Central Medical College Alumni
Invitation to Meet in St. Joseph*

Dr. Charles Geiger, President of the Alumni Association, has extended to us a cordial invitation to hold the second annual meeting and banquet in St. Joseph, at the St. Francis Hotel, as his guests. The invitation is a "blanket" one and includes all graduates of the Ensworth-Central and Northwestern Colleges, as well as the professors. An entertaining program is being arranged, including Dr. Geiger's moving picture lecture, illustrating his recent world cruise and report on clinics in the Far East. The meeting will be held on Wednesday evening, October 13th, during the Kansas City Fall Clinical Week. The Interurban Line between Kansas City and St. Joseph affords hourly service. There is also an excellent concrete highway the entire distance. Wednesday evening is to be entirely devoted to alumni dinners at the Kansas City Clinics, so our members will miss no part of the program by attending the banquet in St. Joseph. Make your reservations today. If you know of any graduates practicing in your county, please add their names.

CHARLES WOOD FASSETT, M. D., Secretary,
115 East 31st St., Kansas City, Mo.

**THE MEDICAL SOCIETY OF THE MISSOURI
VALLEY WILL DEDICATE THE NEW
MEDICAL ARTS BUILDING.**

An interesting feature of the annual meeting of the Medical Society of the Mississippi Valley, September 15, 16 and 17, will be the dedication of the new eighteen-story Medical Arts Building in Omaha. All of the lectures and diagnostic clinics will be held in the auditorium of this building. An elaborate commercial exhibit will be located on the same floor.

On Thursday morning the members will be transported in automobiles to Council Bluffs, the birthplace of the society, where clinics will be held. Among those who will take part in the program and hold clinics are:

Dr. Hilding Berglund, Professor of Internal Medicine, University of Minnesota, Minneapolis, Minn.

Dr. Irving S. Cutter, Dean of Northwestern University College of Medicine, Chicago, Ill.

Dr. McKim Marriott, Professor of Pediatrics of Washington University, St. Louis, Mo.

Dr. E. C. Rosenow, University of Minnesota, Mayo Foundation, Rochester, Minn.

Dr. Gabriel Tucker, Bronchoscopic Clinic, University Hospital, Philadelphia, Pa.

Dr. R. L. Haden, Professor of Experimental Medicine, University of Kansas, Kansas City, Mo.

Dr. E. H. Skinner, Kansas City, Mo., will give a demonstration of Gall Bladder Visualization.

Dr. William Pusey, Chicago, Ill.

Dr. C. R. Moore, University of Chicago, Chicago, Ill.

Dr. Jabez N. Jackson, President-elect, American Medical Association, Kansas City, Mo.

Hotel Fontenelle will be headquarters. Program will be issued September 1st.

A. D. DUNN, President, Omaha, Nebraska.

CHARLES WOOD FASSETT, M. D., Secretary,
Kansas City, Mo.

**DR. PUSEY TO GIVE FACTS AND VIEWS
ON MEDICINE AS CAREER.**

*Writes Chapter for Edward L. Bernays' New
Book, Contributed to by Leaders in Pro-
fessions and Industries.*

Dr. William Allen Pusey, past president of the American Medical Association, will contribute a chapter on the medical profession to a book on careers which is being brought together by Edward L. Bernays, well known public relations counsel, and which will be published shortly by George H. Doran Company. Mr. Bernays will contribute the chapter on public relations.

Dr. Pusey will outline the scope and function of, the specific ideals, the essential qualities necessary, the concrete methods of securing education and training, and the honorary or monetary goals in the profession of medicine.

Among those who have contributed chapters to the book are: John Hays Hammond, on engineering; Colonel Michael Friendsam, on retail merchandising; Charles Cheney, on textile manufacture; Harvey Wiley Corbett, ex-president of the Architectural League on architecture; Mary Roberts Rinehart, on writing; Jesse Lasky, on motion pictures; Homer Folks, on social service;

David Belasco, on drama; Pitts Sanborn, on music; Pierre Cartier, on jewelry craft; Joseph P. Day, on real estate; George H. Doran, on publishing; Stanley Resor, president of J. Walter Thompson Company, on advertising; A. C. Ernst, of Ernst and Ernst, on accounting; P. H. Markham, president of the Illinois Central Railroad, on transportation; Ray Long, vice-president and editor-in-chief of the International Magazine Company, on editing; Nelson Antrim Crawford, of the U. S. Department of Agriculture, on agriculture; Butler Wright, Assistant Secretary of State, on foreign service; Frederick James Gregg, on the arts; R. R. Deupree, general sales manager of the Proctor and Gamble Company, on salesmanship; Roy Howard, of the Scripps-Howard Newspapers, on journalism, and others.

ELECTED PRESIDENT.

The American Pharmaceutical Manufacturers' Association at its annual June meeting at Lake Placid, New York, did itself the honor to elect Ralph R. Patch president. Mr. Patch is the president and general manager of the E.L. Patch Co., of Boston, Mass., the well-known manufacturers of Patch's flavored cod liver oil.

The American Pharmaceutical Manufacturers' Association comprises the large manufacturers of preparations so extensively used by the medical profession; and physicians are therefore interested in the personality of its officers. Mr. Patch has served the association for several years as its secretary-treasurer, and his election as president came a a fitting reward for his years of service in behalf of that organization.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Social Worker (Psychiatric)

Application for social worker (psychiatrics) must be one file at Washington, D. C., not later than September 21. The examination is to fill vacancies in the Veterans' Bureau, and in positions requiring similar qualifications throughout the United States.

The entrance salary is \$1,860 a year. After the probational period of six months required by the civil service act and rules advancement in pay may be made without change in assignment, up to \$2,400 a year. Promotion to higher grades may be made in accordance with the civil service rules as vacancies occur.

The duties are to investigate history and environmental conditions of patients; to analyze and submit data to the physician to aid him in arriving at a definite diagnosis and in outlining a course of treatment; to consider, report upon, and treat the social environment to which a convalescent patient may go or be expected to go.

Competitors will be rated on their education, training, and experience; and a thesis or publications to be submitted with the application.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE U. S. PUBLIC HEALTH SERVICE.

Examination of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following places on the dates specified:

At Washington, D. C.	Oct. 4, 1926
" Chicago, Ill.	Oct. 4, 1926
" New Orleans, La.	Oct. 4, 1926
" San Francisco, Cal.	Oct. 4, 1926

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

H. S. CUMMING, Surgeon-General.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

Dr. A. G. Payne, Greenville, is visiting the Mayo Clinic in Rochester, Minn.

Dr. T. E. Ross, President of the State Medical Association, was present at the July meeting of the Central Medical Society, Jackson, July 20, and the following program was given:

1. "Pellagra," Dr. J. S. Black, Jackson.
2. "Disabilities of the Hip-joint," Dr. Frank Hahaman, Jackson.
3. A Paper—Dr. C. R. Stingily, Jackson.

The Central Medical Society will probably omit the August meeting because of the number of their members taking their vacation.

The DeSoto Medical Society will hold a public meeting with the Parent-Teachers' Association of Hernando on the night of September 6, 1926.

Dr. L. L. Minor will read a paper on "The Necessity of Physical Examination at Stated Periods." There is to be an address by Hon. Clark Holmes. Dr. Hardie Hays of Jackson will speak on "The Health Officer and His Worth to the State of Mississippi." The Parent-Teachers' Association will furnish musical numbers.

Dr. W. H. Scudder of Mayersville having just completed his term as chief surgeon of the Army of Tennessee, S. C. V., has been promoted to surgeon-in-chief of the general organization of Sons of Confederate Veterans for 1926-27.

The State President reports having visited the Central Medical Society which met in Jackson on the 20th of July. Also the North Mississippi Six Counties Medical Society which met in New Albany on the 21st of July. Both societies are very active, earnest, working units, and richly deserve highest commendation for the scientific programs offered on these occasions. Mississippi medicine is making progress. Let us "carry on."

The Forrest County Health Unit is doing a very satisfactory work. The county, the city of Hattiesburg, the physicians, and the Health Unit force are working harmoniously. Team work counts.

On July 20th, at a meeting held in Meridian, a temporary organization was perfected whereby the societies of the four counties of Newton,

Neshoba, Winston, and Lauderdale were united into one to be called "The East Mississippi Medical Society." A new charter will be requested at the next State Medical meeting. Temporary officers elected were:

President—Dr. M. J. L. Hoyer.

Vice-President—Dr. R. L. Minor, Lauderdale.

Vice-President—Dr. S. A. Majure, Newton.

Vice-President—Dr. W. R. Hand, Neshoba.

Vice-President—Dr. T. L. Kilpatrick, Winston.

Secretary and Treasurer—Dr. H. L. Rush.

The women of the Tri-County Medical Society will hold their September meeting in Brookhaven.

At the August meeting of the Jackson County Medical Society there was a rather small attendance but the discussion of a variety of subjects made it a good meeting.

Dr. J. N. Lockard, recently from Touro Infirmary, has located in Pascagoula and is now a member of the Society.

Dr. J. H. McLain attended the funeral of his sister at Gloster, Mississippi, and has just returned.

Dr. E. L. Posey is spending all of August visiting places of interest in the North and West.

Dr. H. R. Shands is spending a few weeks' vacation in the West.

Dr. R. W. Hall spent two or three weeks in Denver during August.

Dr. G. W. F. Rembert spent all of August in vacation and visited a number of clinics.

Dr. and Mrs. L. S. Gaudet spent their vacation, the latter part of August, in North Carolina.

THE ONLY WAY TO CURE THE NARCOTICALLY AFFLICTED.

In the "Mississippi Doctor" (Vol. 4, No. 1) appears an article, with the foregoing title, deserving of unusual attention. Space forbids its presentation in full. Dr. C. M. Shinault protests against the use of such terms as: addict, habitue, and doper. He proposes that the word "afflicted"

be used in this connection, for he believes that "it is something more than a habit." The use of such terms is degrading to the victim, and, too, it places him in a false and most undesirable standing before physician and laity.

The most important factor in a permanent cure is environment. The afflicted should be placed in an atmosphere charged with harmony and one free from worry. Shinault proposes that the treatment be divided into two parts. The first is the active removal of the drug and for this he states that "straight morphine reduction with aspirin for insomnia is the only rational treatment." But before attempting any removal of the drug the physical health of the patient must be restored as far as possible by the removal of all foci of infection. Every source of pain must be eradicated if success is to be had in removing the drug and the patient is to feel confidence in his ability to get along without the drug.

The second part of the treatment is environmental. He should be treated with patience and sympathy and should feel that he is still respected. All outside disturbing influence must be removed. Nothing should be expected of the afflicted except that he forget his troubles and enjoy himself. He should have congenial work and should be allowed to read the news and any literature desired. The environmental treatment should be continued for a year. The disrespect for the afflicted shown by the majority of people is an added burden to the sick mind and is often the cause of repeated transgressions.

CONTAGIOUSNESS OF CANCER.

Under this heading an editorial of the *Journal of the American Medical Association* (87:415, August 7, 1926) quotes from a French Journal on a case of accidental inoculation of malignancy in man. The case is presented as being the first authentic instance in which a medical attendant was infected by a malignant growth from a patient.

"The victim was a French medical student, who let fall a syringe with which he was aspirating fluid that had collected beneath the wound made in the amputation of a breast for cancer. The needle penetrated deeply into the palm of the student's left hand, and, as the syringe contained the cancer fluid, might well have discharged some of its contents into the deep tissues. The student cauterized the wound himself with a galvanocautery, and the immediate effects were slight. Nothing more was observed for two years, when there began to be some pain in the hand, followed by the development of a hard swelling at the site of the needle puncture. A month later the left axillary glands became enlarged and were removed. The growth in the hand enlarged and began to

ulcerate, so that a diagnosis of an infective granuloma was made, and the tissue was removed about six months after the growth was first noticed. A month later subcutaneous nodules had appeared in the skin of the forearm, and the local growth recurred, establishing beyond doubt the malignant character of the process. Therefore the left upper extremity was removed by a shoulder joint disarticulation; six months later there were no evidences of recurrence of the growth.

"This history seems to be clear cut and, as far as known, the first one reported, of accidental inoculation of a medical attendant with cancer from a patient, and as such it is reported. But, unfortunately or otherwise, the evidence is by no means convincing that this is a true instance of inoculation of cancer from man to man, for the reason that the cancer of the breast of the first patient was a carcinoma, composed of solid masses of epithelium in atypical arrangement; the growth arising in the hand of the medical student was a spindle cell sarcoma, not at all resembling the breast cancer. Had the growth that arose at the site of the needle puncture been a carcinoma similar to that of the breast, there would have been no room to doubt that it was an example of transplantation cancer in a human subject. But the sarcomatous growth that was present might well have arisen as a sequel of the needle trauma independent of the contents of the needle and the syringe, and this may be the correct explanation of the whole matter. Yet the fact that the growth in the hand was a sarcoma does not exclude the possibility that it was the result of implantation from the breast cancer, for in experimental transplantation of tumors in animals it has occasionally been observed that carcinomatous transplants may in time develop sarcomatous elements from their stroma which eventually entirely replace the carcinomatous elements. Such a change might have occurred in this case, although such a transformation in a first implantation is extremely improbable. Or, one may argue that there was transmitted a cancer virus which has the capacity to produce either carcinoma or sarcoma, an hypothesis that will seem plausible to some, fantastic to others. At any rate, this case is by no means a proved instance of transplantation or inoculation of cancer from one person to another, for we have no possible way of determining that the sarcoma of the hand did not arise solely because of the trauma of the needle. The case is of great importance as being apparently the nearest thing to human cancer inoculation that has ever been observed, and it emphasizes anew the fact that cancer is not contagious of infection in any ordinary sense, since even the single possible exception does not fully establish itself."

BOOK REVIEWS

Infection and Resistance: By Hans Zinsser, M. D.
Third edition. New York. McMillan Co.
1923.

An exposition of the biological phenomena underlying the occurrence of infection and the recovery of the animal body from infectious disease, with a consideration of the principles underlying specific diagnosis and therapeutic measures.

The third edition of this master work of one of the most eminent investigators and teachers of bacteriology and immunology in America, has been before the public too long to require more than a mere acknowledgment of its receipt and availability to the readers of the library of the Orleans Parish Medical Society which is the repository of all the publications presented to this Journal through the courtesy of the publishers.

In the preface to this third edition of his great classic, the author, in rewriting this treatise, has not only revised and added to the text of the previous editions the new acquisitions of the biologic and exact sciences which are constantly enriching the study and the literature of infection, resistance immunity and anaphylaxis, but he has made considerable alterations in the arrangement of the material in order to present it in the most logical sequence. The chapters on anaphylaxis have been completely rewritten. The final chapters on practical therapeutic methods and the theories upon which they are based, have been enlarged and rewritten with a purpose of making them more definitely useful to those engaged in the clinical and laboratory study of infectious diseases.

"While the hope is expressed that the book as rewritten will prove more useful than formerly to physicians, the public health workers and laboratory investigators, the author has adhered particularly to his original purpose, namely, the preparation of a critical treatise for the use of undergraduates, students of medicine and public health. He states: "We are more than ever convinced, from our experience in teaching such students, that immunology can be presented with sufficient clearness and simplicity to make it easily accessible to students at this stage of their careers, and that a thorough survey of the subject is almost indispensable to a proper subsequent approach of the problems of infectious disease." While we do not share the confidence of the author in the capacity of the average undergraduate to master the contents of the encyclopedic treatise such as this in

the present overcrowded state of the medical curriculum, it cannot be questioned that the fundamental concepts of the great subjects so elaborately, learnedly and critically presented in this volume should be mastered at an early period of the student's medical career since no true understanding of what is basic in the scientific knowledge of disease and infectious processes is possible without such knowledge. The undergraduate should master the fundamental principles which are so lucidly expounded in this treatise, but it is only the teacher and special student of the subject who can absorb, grasp and profit intelligently by the review and critique of the vast mass of facts and theories which re-assembled and marshalled in exhaustive detail in the nearly 650 octavo pages of this masterly work.

From this point of view, Professor Zinsser's treatise is indispensable in the equipment of every laboratory worker in pathology and no medical library can be complete without it, since it embodies all that is best in the contemporary scientific knowledge and thought on the subjects discussed.

RUDOLPH MATAS, M. D.

The Nursery Guide for Mothers and Children's Nurses: By Louis W. Sauer, Ph.D., M. D.
Second edition. St. Louis. C. V. Mosby Co.
1926.

This book was written "to aid those to whom are entrusted the care and feeding of infants." It is simply written so that any one can understand the directions. It is practical as well as scientific and would be a great help to any mother with young children. In the first two chapters, the author gives instructions to the mother about care of herself during pregnancy, and discusses some of the minor ailments of the new baby. He tells how to clothe, bathe and feed the baby, how to regulate its life so that it will form proper habits. In the third chapter he gives instructions for caring for the premature baby. In chapter four he tells how to prepare the baby's food and gives diets for the baby and for the older child. He also gives recipes for many simple foods for the older child. In the last chapter, he discusses minor ailments of children and gives simple instructions of how to treat them until the doctor has been called. It is a very good book to recommend to the young mother who is seeking help in the care of her child.

RENA CRAWFORD, M. D.

Pathogenic Micro-organisms: By William Hallock Park, M. D., Anna Wessels Williams, M. D., and Charles Krumweide, M. D. Eighth edition, revised. Philadelphia and New York. Lea & Febiger. 1924.

I have carefully reviewed the work of Drs. Park, Williams and Krumweide, on pathogenic micro-organisms and have found the book to be one of the most thorough on this subject. It is a wonderful contribution to both the medical profession and to the medical student. They cover each organism completely and their table on the identification of bacteria is very compact and very helpful to the laboratory worker.

A. V. FRIEDRICH, M. D.

Parasites and Parasitoses of the Domestic Animals: By B. M. Underhill, V. M. D. New York. The MacMillan Company, 1924.

After scanning the well written and profusely illustrated compendium of the enormous number of parasitic protozoa—flies, mites and worms—that infest both man and our housemates in the form of pet animals one wonders why a munificent government would not make the various disseminators of knowledge regarding the cause of disease demonstrate some of their claims before using the mails to get new adherents to their various and sundry cults. Imagine perhaps the chiropractor so adjusting your pet dog's special spinal column that the 50 or 60 worms of several different varieties could no longer tolerate their surroundings and come bounding to the exterior of their delighted host, or, perhaps, the New Thought artist so emancipating the shackles binding down the mentality of our friend Bossie that, in the exuberant glow of a perfectly tranquil mind, the warble fly maggots coursing through her muscles would become petrified with fright at the changed conditions and proceed to melt away as if they were merely troubled dreams. Perchance the Christian Scientist would argue that as long as mind is superior to matter—and that matter is only a state of mind—could be induced before posting copies of the Monitor in the railway station to prove to the government that a flea bite is nothing after all—or that several feet of our pup's tapeworm whose eggs could hopelessly destroy a human liver, is nothing more than a conjecture.

Seriously speaking, however, this work by Dr. Underhill should be read by every physician. A large proportion of human diseases are parasitic in nature—they all have counterparts in the infestations of our domestic animals, and many of them are curiously interwoven in cycles of reproduction or growth in both man and animal. The book is

well written—thoroughly illustrated with many of the illustrations from the U. S. Bureau of Animal Industry—and though now several years old is still up-to-date in fundamental concepts.

F. M. JOHNS, M. D.

Modern Methods of Amputation: By Thomas G. Orr, A. B., M. D., F. A. C. S., Kansas City. St. Louis. C. V. Mosby Co. 1926.

The author has presented a monograph that is brief and concise, but which covers the subject well. He stresses the simplification of amputation technic, the great importance of careful surgery in these cases, and keeps function as the foremost thing in the surgeon's mind.

Professor Orr has divided his little book into six chapters. These cover practically every phase of amputations. He presents an introduction to cinematoplasty amputations, about which little is known in America; and the principles which underlie artificial limbs and their fitting.

The brief and concise way in which the subject is presented makes this monograph an excellent little book; and one which can be read with interest and pleasure.

FRANK L. LORIA, M. D.

PUBLICATIONS RECEIVED.

Bruce Publishing Company, St. Paul: "The X-Ray Embryology and Obstetrics," by W. A. Newman Dorland, A. M., M. D., F. A. C. S., and Maximilian John Hubeny, M. D., F. A. C. R., F. A. C. P.

W. B. Saunders Company, Philadelphia and London: "Clinical Pediatrics," by John Lovett Morse, A. M., M. D.

C. V. Mosby Company, St. Louis: "Pathology and Treatment of the Inflammatory Diseases of the Nasal Accessory Sinuses," by Professor Dr. M. Hajek, translated and edited by Joseph D. Heitger, A. M., M. D., and Frank K. Hansel, M. D., M. S., Volumes I and II.

P. Blakiston's Son & Company, Philadelphia: "Elements of Pathology," by Aller G. Ellis, M. Sc., M. D. "The Diabetic Life, Its Control by Diet and Insulin," by R. D. Lawrence, M. A., M. D. "Medical Gymnastics and Massage in General Practice," by J. Arvedson, M. D., translated and edited by Mina L. Dobbie, M. D., B. Ch.

Lea & Febiger, Philadelphia and New York: "Fundamentals of Dermatology," by Alfred Schalek, M. D.

F. A. Davis Company, Philadelphia: "Electrothermic Methods in the Treatment of Neoplastic Diseases," by J. Douglas Morgan, B. A., M. D.

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YATREN 105 IN THE TREATMENT OF AMEBIC DYSENTERY.

A PRELIMINARY NOTE.*

R. H. TURNER, M. D., AND P. H. JONES, M. D.,

From the Department of Medicine, Tulane University and Charity Hospital,

NEW ORLEANS.

At the suggestion of Dr. C. C. Bass we have undertaken to test the value of Yatren in the treatment of amebic dysentery. Although the cases treated have not, at this time, been observed for a sufficiently long period of time to enable us to arrive at final conclusions as to its value, the results thus far have been of such interest as to be worth reporting.

Yatren 105 is the trade name for the chemical compound said by Muhlens and Menk to be iodoxyquinolinsulphonic acid with an admixture of sodium carbonate to render it more soluble. It is, then, an organic compound of complicated structure containing 28% iodine. The same drug is said by Kop to exist under several other names. It is on the market in this country in two forms, wafers of 0.5 gram and pills of 0.25 grams each, both of which have salol coating.

This drug was first used in Germany in 1912 as a local antiseptic and as such applied with success to amebic ulcers by Muhlens and Menk and reported by them in 1921. Since then its local application

has largely given place to oral administration. Favorable reports are in the literature of its use in Germany, England, Brazil, Japan, and China. We have not found reports of toxic symptoms.

The drug costs about \$0.20 per gram and for our routine treatment the expense is about \$8.50 per patient.

Following are brief case records of those treated:

Case No. 1. (This case was turned over to us, along with very complete records of his previous course by Dr. F. M. Johns.)

W. A. S., white, iceman, 29; married; resident of New Orleans.

The patient had had dysentery since 1919, for four years before coming under the observation of Dr. Johns, which was two years before he began his Yatren treatment. He had been treated three times with emetine, followed twice with ipecac. First: Five injections of emetine followed by 100 ipecac pills; free of symptoms for one year. Second: Six injections of emetine followed by 100 pills of ipecac; free of symptoms for 8 months. Third: Thirty-three injections of emetine without any relief. Dr. Johns treated him most thoroughly with stovarsol and stovarsol and emetine combined and he relapsed four times during the two years. The first relapse was a month after finishing two courses of stovarsol (three 0.25 gram tablets daily for one week as a course.) The second relapse was three months after stopping medication which had been: one week of stovarsol as above followed by six injections of emetine 1 grain each, then by two weeks of stovarsol, two tablets daily. The third relapse was four months after completing four courses of four tablets of stovarsol daily for six days each with one week intervals. The fourth relapse came 10 days after he had stopped 3½ months of continuous stovarsol therapy: one week he would take 4 tablets daily and the next two

*Read before the Orleans Parish Medical Society, June 28, 1926.

daily. He continued so long through misunderstanding instructions. He never had any symptoms of arsenic poisoning. All relapses were proven by Dr. Johns' finding typical motile red blood cells containing endomeba dysenteriae.

It was at this last relapse that the patient came under our care. He was having 10 to 15 movements daily with much blood and mucus; tenesmus was distressing.

General physical examination uninteresting; liver not enlarged to palpation or percussion. On December 16, 1925, patient was proctoscoped and treatment begun. Proctoscopic examination showed a moderately scarred and thickened rectal mucosa with several small bleeding points on posterior wall 5 cm. above the internal sphincter.

First course of yatren consisted in one gram by mouth three times a day for a week, together with daily enemas for the first three days which consisted of 100 cc. of 2% aqueous solution of yatren. Blood and mucus disappeared, diarrhoea and tenesmus were relieved after 48 hours of this treatment. After an interval of two weeks the treatment was repeated but this time without the enemas. Then after another interval of two weeks a third course of 0.5 gram three times a day was given. His third and last course was finished February 4th, 1926, nearly four months ago. At the end of each course and before beginning the next and at intervals of one month since completing last course the stools have been examined for cystic amebas with negative results. Since completing the first course of yatren he has had one formed movement daily, excepting when taking yatren when he had 2 to 3 soft movements daily without any discomfort. Also, early in May, 1926, he had a week of diarrhoea associated with very severe urticaria, both of which followed an injection of a prophylactic dose of tetanus anti-toxin. (He had run a nail into his foot.) Two stool examinations and a proctoscopic at this time revealed no evidence of amoebiasis. He considered himself a well man. His weight at the time of beginning treatment was 135 pounds; June 23, 1926, it was 157. He has now reached his normal weight for the first time since onset 6 years ago.

Case No. 2. M. R., white, male, ship engineer, Central America service; married; 35. Admitted March 3, 1926, Ward No. 20. Service of Dr. O. W. Bethea, Charity Hospital.

Onset in June, 1925, nine months before admission, and a short time after visiting a Mexican port where he ate various raw fruits and vegetables. Onset sudden with diarrhoea, tenesmus, abdominal pain, blood and mucus containing stools. He was treated by a physician who gave by mouth

27 small pills during 3 or 4 days with complete relief of symptoms. He continued very well until November, 1925, four months before admission, when aboard ship he had a sudden return of all ing severity, having from 5 to 15 movements daily, usually with blood and mucus. For two weeks he had had severe pain in the right lower abdominal quadrant. He was diagnosed in Dr. Musser's clinic, where typical amebas were found, and admitted to Dr. Bethea's service for treatment.

General physical examination negative; marked tenderness on deep pressure in both lower abdominal quadrants. On March 26th he was proctoscoped and large ragged ulcers found covering most of the lower rectum. From these, scrapings showed many typical motile amebas containing many red blood cells.

The treatment used in this case has been adopted as our routine for this study. It consisted of yatren 105 by mouth, one gram (four pills) three times a day for seven days, followed by an interval of one week without any medication, then by another week like the first, one gram three times a day. First course begun March 26th, 1926. The patient continued on regular ward diet and out of bed most of the time during the day. On the third day of treatment he had only one stool and that formed—as they continued to be throughout period observed. Abdominal pain and tenderness disappeared on the 6th day of therapy. Twelve days after beginning therapy he was proctoscoped. Where ulcers had been, only what appeared to be smooth granulation tissue was to be seen. This bled easily on scraping. No vegetative amebas were found and a formed stool at this time showed no cystic forms. At the end of the second course another formed stool was examined for cysts with negative results. During these three weeks under treatment he gained three pounds and his general health showed great improvement. After leaving the hospital he left for parts unknown and we have not been able, so far, to locate him for follow up.

Case No. 3. R. B., mulatto; male; 40; porter; New Orleans; Dr. J. C. Cole's Clinic patient.

In 1923 he was treated for syphilis with neosalvasan at Charity Hospital. Wassermann reaction now negative. He has lived for the past 20 years in Louisiana.

Duration of illness was 10 days. Onset gradual; diarrhoea, with tenesmus, increased during the first 3 days to 10 movements daily with the appearance of blood and mucus at the end of that period. From that time movements were mainly blood and mucus. Crampy pain and tenderness in

the mid-abdomen for the last three days. He was diagnosed by Dr. Cole in the Charity Clinic on April 5th, 1926, when he was given 15 grains of bismuth subnitrate by mouth three times a day for 3 days as a temporary measure. Dr. Cole turned him over to us at the end of this three days.

Patient was robust, well nourished mulatto; general examination negative. Marked tenderness over the region of the sigmoid; liver was not enlarged to palpation or percussion. Proctoscopic: Large ulcer on posterior wall of rectum 6 cm. from the external sphincter. Scrapings showed a moderate number of actively motile amebas containing many red blood cells.

Patient sent home to bed; put on a liquid diet. Began immediately a course of yatren—one gram three times a day by mouth for one week. (From April 8th to 16th, 1926.) He kept a daily record of movement which is as follows (number of stools in succeeding 24 hour periods): 14, 8, 3, 5, 4, 3, 2; no tenesmus after 48 hours; no blood after 72 hours. At the end of week of treatment proctoscopy showed ulcerated area covered level with granulation tissue; no amebas found in scrapings. He was allowed to go back to work with soft diet. An interval of 10 days without medication was allowed, during which he had one formed stool daily. At the end of this period a warm stool was examined. It was formed with a coating of dark mucus. Mucus showed red blood cells and pus cells but no vegetative amebas and the stool no cysts. He was proctoscoped. No ulcers were seen but patches of mucus were scattered over the mucosa. Several preparations showed no amebas. He was placed on yatren 0.5 gram three times day for a week but through misunderstanding he took it for two weeks. During this period he had one or two soft movements daily. For the past 6 weeks he has had no medication and has felt quite well; has one formed movement daily. Two examinations for cysts during this period have been negative.

Case No. 4. A. D., white, male, 44; farmer; married. Admitted to Ward 14, Charity Hospital, May 6, 1926, Dr. J. H. Musser's service.

Onset suddenly 12 years ago, in 1914, with diarrhoea and tenesmus, blood and mucus in the stools, of which he soon had 10 or 15 daily. He spent about two weeks in bed and at the end of that time he was having about 5 movements daily, still with blood and mucus. During the 12 years since that time he has not had less than five movements daily, usually with blood and mucus. He has apparently not had treatment with ipecac, emetine, or stovarsol. Weight 12 years ago was 165 to 170 which fell during the first two years

of the illness to 140 from which it had not varied greatly. He has attempted to work since the first two weeks of illness but with poor success since severity of diarrhoea depended largely on amount of activity. For the two last months before treatment he had been having crampy pains in the abdomen, mainly in epigastric region; no pain in the liver region.

Examination showed a large framed man, moderately under weight. General examination was negative except for tenderness over the region of the sigmoid; liver not enlarged to palpation or percussion. Proctoscopic: Lower 8 to 10 cm. of rectal mucosa greatly scarred and puckered, covered with patches of bloody mucus. Only one definite, ragged, bleeding ulcer which was about 3 cm. in diameter on the anterior wall cm. from external sphincter. Scrapings showed many actively motile amebas containing many red blood cells.

Treatment according to our routine was begun the day of the proctoscopic (May 7, 1926). Patient on regular ward diet and out of bed most of the day time. Blood and mucus disappeared from the stool after the first 48 hours of treatment; no tenesmus after the same period. Proctoscopic at the end of the first week showed the ulcerated area covered with granulations. Mucus and feces obtained showed no vegetative amebas or cystic forms. Since the first week of treatment patient has had one formed stool daily; specimen at the end of the last course and one month later were examined for cysts with negative results. During the first month of treatment his weight rose from 147 to 165 which he has maintained since.

Case No. 5. E. B., white, male; farmer; age 36; widower, Houma, La. Admitted to Ward 19, May 17, 1926, Charity Hospital. Service of Dr. A. E. Fossier.

First trouble in 1911, fifteen years ago with a sudden onset of diarrhoea, with blood and mucus in the stool. He was in bed for the first month during which time his symptoms became much milder but blood and mucus and a certain amount of tenesmus persisted for two or three years, being relieved by taking a liquid medicine. He had no bowel trouble for the next six years. But during the past six years he had three more attacks of the same trouble, each lasted 5 to 6 months. One of these was relieved by seven daily injections in the arm. Present attack began in February, 1926, three months before admission. He had lost 10 or 15 pounds during this attack.

He was a poorly nourished, stupid individual; few teeth present, those carious. Heart and lungs normal. Liver not enlarged to palpation or per-

cussion. Marked tenderness over the region of the sigmoid. Proctoscopic: Rectum viewed for 12-15 cm. from the external sphincters; it was greatly scarred and showed 12 or 15 ulcers of varying size, mainly superficial; one deep ragged ulcer seen.

Treatment begun the day of proctoscopic examination (5/18/26) and was according to our routine. Patient on regular ward diet but in bed most of the time. The number of movements for each succeeding 24 hours after beginning treatment is as follows: 18, 4, 3, 3, 2, 1, 1. No tenesmus or blood after the first 24 hours; since first course he has had one formed movement daily. Proctoscopic at the end of the first course showed almost complete healing of the ulcers; some of the areas were still quite red and tags of mucus could be found which contained blood; no amebas were found. Proctoscoped a week later and further healing noted. A stool at the end of the second course was examined for cysts with negative results. During the three weeks in the hospital he gained six pounds; general health greatly improved.

Case No. 6. C. S., white, male, 30; farmer; single; Mandeville, La. Admitted to Ward 20, May 18, 1926, Charity Hospital. Dr. O. W. Bethea's service.

Diarrhoea began gradually in December, 1925, about five months before admission. Blood and mucus were not noticed in the stool until 3 or 4 weeks after onset; tenesmus severe from the beginning with four to ten movements daily. Weight dropped from 140 to 120.

He was markedly undernourished; moderate tenderness over the sigmoid; liver not enlarged to palpation or percussion. Proctoscopic examination on May 18th showed the lower 10 or 12 cm. of the rectum covered with small superficial linear ulcers 10 or 15 in number. Scrapings showed enormous numbers of actively motile amebas containing many red blood cells.

Treatment begun on May 18, 1926, and consisted in the two routine courses with a week's rest between. Regular ward diet given throughout; patient in bed little during the day. After the first 48 hours of treatment patient has had one formed movement daily; no tenesmus or blood after the first 24 hours. Proctoscoped at the end of the first course and a practically normal mucosa seen. Stool at that time showed no vegetative or cystic amebas. Stool examinations at the end of the second course and one month later were also negative. Weight in three weeks rose from 120 to 134 pounds.

Case No. 7. W. B., colored, male, 35; farmer, Thibodaux, La. Admitted to Ward 252, Charity Hospital, May 22, 1926. Service Dr. G. S. Bel.

Onset was in 1925, one year before admission. He had 4 or 5 movements daily with considerable tenesmus but only occasionally with blood. Diarrhoea was very distressing for one week but checked without treatment. During the year he had had mild exacerbations lasting from one to three days when he would have three or four movements daily, occasionally with blood; these would come one every two or three weeks. Before admission he had for one week been having four or five movements daily, usually with blood. He had apparently had no treatment by a physician. During the year his weight had fallen from 145 to 119.

General examination unessential; very poorly nourished negro man; liver not enlarged to palpation or percussion; moderate tenderness over the region of the sigmoid. Proctoscopic examinations on May 24th showed 8 or 10 small fairly deep bleeding ulcers in the lower rectum. Scrapings showed many actively motile amebas containing many red blood cells.

Treatment begun May 25, 1926, and was the same two courses with a week of rest between except that the patient ran away from the hospital on the fourth day of his second course. The patient ate the regular ward diet and was out of bed most of the daytime. After the first 48 hours of the first course all acute symptoms disappeared and during the remainder of his stay he had usually one formed movement daily; his general health improved markedly. Proctoscopic at the end of the first week of treatment: areas previously ulcerated showed up merely as reddened spots with a slightly roughened surface. Mucus present did not contain blood or amebas. Efforts are being made to follow patient further.

Case No. 8. V. G., white, male, 30; married; truck driver, Violet, La. Admitted to Ward 66, Charity Hospital, June 7, 1926. Dr. W. P. Bradburn's Surgical service.

Onset gradual, January, 1926, six months before admission; diarrhoea was distressing with severe tenesmus and with blood and mucus in the stools—three to ten movements daily. Weight fell from 165 to 144. There was great loss of strength. He felt sure he had piles and was admitted to the surgical service for operation; there Dr. M. W. Miller, the interne in charge, diagnosed amebic dysentery and Dr. Bradburn kindly allowed us to treat him.

He was a large framed, markedly undernourished man. General examination unessential. Liver

not enlarged to palpation or percussion. Marked tenderness over the region of the sigmoid and slight tenderness over the caecum. Proctoscopic examination on June 9, 1926, showed four rectal ulcers, moderately deep, 2 to 3 cm. in diameter, covered with bloody mucus. Scrapings showed a few actively motile amebas containing many red blood cells.

Patient continued on regular ward diet and was out of bed most of the time during the day. He received yatren according to our routine and is at present taking the second course. All acute symptoms disappeared after the first 24 hours of treatment; for the remainder of the week had two soft movements daily. At the end of the first week he was proctoscoped. Two of the ulcers were well covered with granulation tissue; one was only slightly healed and the fourth showed puckering and thickening of the edges with granulation in the base. Mucus obtained contained red blood cells but no amebas. Proctoscopic at the end of the week of rest showed further but not entirely complete healing of ulcers. Mucus examined for vegetative amebas and formed stool for cysts with negative results. In the first two weeks of treatment he gained 3½ pounds, appetite and general health are felt to be greatly improved.

SUMMARY AND CONCLUSIONS.

The early effects of the treatment of eight cases of amoebic dysentery with yatren 105 is reported as a preliminary note. Five cases were in the first attack, four of these had had symptoms for from ten days to one year; the other had had constant symptoms for 12 years. Three cases had had previous attacks, one patient 5 attacks in 6 years; one had had one other attack within one year; the third had had three in the past fifteen years, one of these had been treated many times very thoroughly with ipecac, emetine and stovarsol; the other two had probably had a little treatment with ipecac or emetine. Seven showed ulcers in the rectum. In all cases typical vegetative forms of *endamoeba dysenteriae* (*histolytica*), motile and containing red blood cells were found.

In most of the cases the routine of treatment was as follows: Yatren 105 was given by mouth, 1 gram three times a day

for the first and third weeks; during the second week no medication was given. Only two cases were kept in bed and on a liquid or soft diet.

It was noted that during the first week of therapy acute symptoms were relieved and the ulcers showed rapid healing.

All gained weight during treatment, some with remarkable rapidity. All remarked their great improvement in appetite and general feeling of well being.

Iodism or other unpleasant symptoms did not develop.

Regarding the permanence of cure effected by treatment with yatren 105 little can be said at present. It has been one month or more since treatment has been completed in six cases, five of these have been followed, none have shown clinical or microscopic evidence of acute or chronic amoebiasis.

The prompt relief in all cases and especially in Case 1 indicates that yatren promises to be a very valuable aid in the treatment of amoebiasis.

We are indebted to Dr. C. C. Bass for suggesting this study and for his stimulating interest; to Drs. Johns, Cole, Bethea, Musser, Fossier, Bel and Bradburn for their kindness in allowing us to study their patients; without their co-operation this study would have been impossible. We are grateful for the invitation to present this note before your society.

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DISCUSSION.

Dr. F. M. Johns (New Orleans): I feel sure that Drs. Turner and Jones have added another drug to our armamentarium in the treatment of amoebic dysentery and I am convinced that it is a very good drug. I believe it is a better drug than stovarsol, in view of the findings.

Patient No. 1 had stovarsol. I experimented with stovarsol with this same patient without effecting a cure. The relief was only temporary. But this patient is certainly remaining well, up to the present, following two weeks of yatren. I examined a specimen and saw him just day before yesterday.

I wish also to bear witness to another cured case. I had the pleasure of seeing an oil prospector from the Tampico oil field, infected with dysentery, and had been very severely ill for several months. He went into Mexico City. There he has given a two weeks course of yatren and discharged cure with a request for monthly examination for one year. He got here on the 11th month, and had remained well during this interval. He was examined several times, proctoscoped, etc., and I could not find any amebas.

I must say that the doctors in Mexico City are apparently far ahead of us in the most modern treatment of this infection.

With reference to the idiosyncrasy of stovarsol, I might say that I have heard of several cases, one in which I studied the reaction in detail. This patient had a definite psychosis, skin rash and fever, following the use of stovarsol. One or two developed rash and temperature, but with no mental symptoms. A particular case to which I would like to refer was that of a doctor in a neighboring state. He was diagnosed as having amoebic dysentery and was put on stovarsol, four $\frac{1}{4}$ gram tablets daily for a week. Following this he took a week's rest and, on the third tablet of a second course, developed chill, coma and, a few hours later, a rash appeared on the body. The coma lasted four or five hours. The case was diagnosed as dengue fever. Upon recovery he decided he had better start on his stovarsol again. He took two tablets, one in the morning and one after lunch. He was brought home from his office about 4 o'clock, delirious, fever of 104° and a rash appeared about 1 o'clock that night. The next morning he was free from the delirium. At the end of the week he decided to start on stovarsol again. He took one tablet in the morning. That evening he had a hard chill, slight fever, but no coma. That night a beautiful measles-like rash developed. On the other hand, I have seen several patients who have through error been able to take

from 1 to $1\frac{1}{2}$ grammes a day for one or two months at a time.

In conclusion, I am satisfied from reports of German and South American physicians and from these cases, that yatren is another drug that can be used most efficaciously in this type of dysentery.

Dr. Randolph Lyons (New Orleans): I am very much interested in dysentery, for a number of reasons. This is a subject that may come home to a good many of us. In years gone by I can remember when there was hardly a case of amoebic dysentery seen by me which originated in New Orleans. In the last two years I have seen more dysenteries originating here than I have seen during fourteen or fifteen years before. I am not able to account for this, unless it is from some infected truck produce brought in here—lettuce, celery, etc.—which has not been properly washed and persons have been infected in that manner. I have always been interested in the new treatments for this disease, particularly in finding a drug that would be effective and not toxic. Ipecac and emetin will cure the disease but are toxic and have to be handled carefully. I have seen two or three cases of stovarsol poisoning. One patient developed a temperature of 104° with persistent vomiting and nausea, and a rash. I had another similar case and other cases of milder type of intoxication. I do not know anything about yatren. We see remissions in any form of treatment lasting for periods of months, and the longest case under treatment here is about eight months. It is too early to talk about ultimate cure or relapses with yatren. But if such an iodine preparation will control the disease within a short time and has no toxic effects that is all we can ask for the present. We are indebted to the doctors for introducing and trying this drug. As to toxic symptoms, we hope there will not be any; and in any event, certainly iodism is less serious than arsenic emetine poisoning.

Dr. C. C. Bass (New Orleans): At the time Dr. Turner first took up the study of the use of Yatren here, I believe there had appeared in the literature some eighteen or twenty articles on this subject. These were available to us only in the form of abstracts. There are certain advantages apparently of Yatren over other available specifics recommended for amoebic dysentery. One of these is its apparent non-toxicity. It would be very unusual indeed if we should fail to find idiosyncrasies to iodine in this form. However, none of the publications or abstracts that we consulted mentioned toxicity. It is supposed to be non-toxic.

This drug has been used by Muellens of Hamburg and others for about three years. Publica-

tions that were available to us up to some eight months ago did not report a single failure of result. So Yatren seems to be not only non-toxic, but it seems to give a higher percentage of arrested cases than the other previously used drugs. Of course, Dr. Turner's observations have extended over too short a time for one to judge as to the permanency of the results, but the publications of Muellens and others reported cases that had been treated for very much longer periods of time without relapse. It would seem that cure is certain with Yatren, more so than with the other specifics at our disposal.

There is still another advantage in Yatren and that is its simplicity of administration. I believe that with the exception of one or two cases, Dr. Turner simply gave the patients hospital diet and allowed them to be up and about. In employing emetin and ipecac, especially the latter, hospitalization is almost unnecessary. Emetin may be given without the patient being hospitalized but giving intramuscular or hypodermic injections is required. It would seem that the advantages of Yatren are as great if not greater than those of any other remedy that has been used in the past.

Dr. A. L. Levin (New Orleans): The discussion tonight on the treatment of amoebic dysentery presenting facts in favor of the new drugs and in condemnation of the old method of treatment reminds me very much of the medical and surgical treatment of cancer. We know very well that cancer is not a curable disease unless recognized early and the surgeon's knife, X-ray or radium applied energetically. Even in these instances we quite often meet with failure.

Amoebic dysentery, as we know, is a very stubborn infection with a strong tendency to recurrence unless the eradication of the parasite is made early and as completely as possible. The fact that the speakers tonight mentioned one or two cases of recurrence when ipecac and emetin was used does not convince me that ipecac and emetin after all is not the best that we have in our armamentarium to cure amoebic dysentery. In the last fifteen years in my service, at the gastro-intestinal clinic of Touro Infirmary, I have seen quite a number of amoebic dysentery cases treated with ipecac and emetin. The results in a majority of these cases were excellent; no recurrence of the disease for ten or twelve years.

I am convinced that the best method of treatment unquestionably is ipecac and emetin, but I admit it is the most tedious, the most unpleasant, the most difficult treatment we have at our command. The newer treatments which have been recently suggested have a place. The time is too early to

make a statement for or against it. There is no doubt that if we can adopt a method requiring very little effort on the part of the patient and physician to eradicate the parasite and obtain satisfactory results in the shortest possible time, we should adopt the reform plan and abandon orthodoxy.

My view of the entire subject can be summarized as follows: Very chronic and stubborn cases where the amoeba have penetrated deeply into the tissues or are hidden in the lumen of the appendix where no medicine can reach them are often not amenable to any form of treatment. Appendectomy, appendicostomy or cecostomy is often advisable in these cases.

Ipecac and emetin are by far the best so far, because we know by many years of experience that it is the surest. The arsenical group of drugs such as stovarsol and treparsol unquestionably should have a place in our armamentarium of drugs if good results from the administration of these drugs have been obtained. Whether the cure is permanent or transient, time will tell. The danger in the arsenical drug is arsenical poisoning; more with stovarsol than treparsol because the elimination of the former drug by the kidneys is slower than the latter, hence absorption of arsenic and symptoms of arsenical poisoning. The dosage of these drugs, we do not know. We are trying, experimentally, three tablets per day. If symptoms of poisoning develop, use one per day or less for a longer period. It is only in an experimental stage. I have used lately treparsol in a number of cases with good results giving two tablets per day for seven days and six injections of emetin, one grain each, for the same period; then a period of seven days rest, then another period of treparsol, one tablet per day without emetin and another period of rest for seven days, and the third period is a ten day period of one tablet per day without emetin. The patient does not have to go to bed nor change his mode of living, can remain on normal diet and does not lose any time.

Yatren is probably another drug which will demonstrate its value but we shall have to wait months or years before we can attest our approval of yatren as a specific in amoebic dysentery. All we can say at present is that it relieves symptoms.

Dr. Johns condemns stovarsol because we had a few cases of arsenical poisoning. We also remember numerous cases of poisoning we had when we first started the use of 606. I remember fatal cases which occurred from its use. We know now its value, and it is possible we will know the value of stovarsol better in the future than we know it now. In this relationship I wish to relate briefly the following case:

A little over a year ago a middle-aged gentleman presented himself for treatment for a condition which was considered by leading men in the city, including Dr. John's himself, as one of pernicious anemia. The usual method of treatment of such cases was tried. Blood transfusions given a half dozen times with absolute failure. Some one, in a joke, suggested the use of stovarsol, which was tried. He has taken 75 tablets of stovarsol in a period of several months. Since the beginning of its use the patient has apparently regained his health, gained about forty pounds in weight and is able to pursue his work.

I wish to thank the essayist and Dr. Bass for bringing this subject before us tonight. It is of great interest to all of us, and if yatren can prove its efficacy in amoebic dysentery we shall add this drug as one of merit in the above disease.

Dr. P. H. Jones (closing): The dose is one gram, three times a day.

There is nothing I can add, except to make a remark along the lines of the cost of the drug. It (according to weight) costs about as much as stovarsol, but we give four times as much of it. As to the effects of the drug: it seems to encourage the patient to desert before treatment is finished, since they feel so much better. The cases we had all seemed to be of domestic origin. They were not travelers in foreign lands.

Yatren is easily given; in that manner we may be able to accomplish more cures than with the tedious treatment formerly referred to.

TREATMENT OF CANCER OF THE CERVIX UTERI.*

J. S. ULLMAN, M. D.,
NATCHEZ, MISS.

To anyone at all familiar with the literature on the subject of cancer it is evident that we have made no real progress in so far as we are able to find the cause of this scourge, nor can we say that we are entirely satisfied with our means of combatting it. Until we shall have found its cause and shall have secured a means of cure, or of prevention, this disease will continue to be one of the biggest problems that the medical profession has to solve. In spite of all

the weapons that science has given us to use against this dread malady, which year by year is exacting an increasingly heavy toll of the human race, we are forced to admit that our results are not satisfactory.

No method of treatment at our disposal today is to be considered curative unless it be instituted in the very beginning of the disease. Too many patients are not seen until the condition is definitely established, with the result that our efforts may be directed toward nothing more than palliation.

In no pathological entity, today, is early recognition of greater importance than in this. Again and again the surgeon, the radiologist and the roentgenologist have insisted that if anything approximating a cure is to be expected the patient must come early. Obviously, then, the laity must be taught the importance of this.

It is strange that while practically every woman recognizes the need of examining every lump in the breast, or every sore nipple, very few indeed will investigate symptoms of trouble in the pelvic organs until too late.

It has been well said that "the medical knowledge of yesterday is the lay knowledge of today." But our experience tells us that when we find the three symptoms of pain, odor and hemorrhage, it is too late. Every physician should teach his patients that pain is a very late symptom of uterine cancer, and so is the odor. Why is it so hard to teach the laity that the menopause should be as uneventful as the establishment of puberty? Is the physician to blame? Has he been insistent enough as to the necessity of thorough examinations? Is the "wait and see policy" really giving the patient the benefit of the doubt? Every woman should be brought to suspect any increase in menstrual flow, or any bleeding during the interval. The investigation of leukorrhea is of great importance too, for thus will many a case of eversion of the cervical membrane, laceration and ulcera-

*Read before the Mississippi State Medical Association, Jackson, Miss., May 11-13, 1926.

tion be discovered at a time when they may be corrected before they become malignant.

The first phase of our task then is so to educate women that they will present themselves for treatment in time. Let them understand that in the light of present-day knowledge *the time to cure cancer is before we are certain that it is cancer.*

Turning now to the second part of our problem, the question of cure, it may safely be stated that the majority of gynecologists today are depending upon radium as the method of choice in carcinoma of the cervix uteri,—as a curative agent when the patient is seen early, as a palliative measure when seen later. In the most skillful hands there were not more than 25% or 26% operative recoveries from the Wertheim operation. In the case of the simple panhysterectomy, while the operation is not so formidable, the end result is not so satisfactory. But on the other hand the application of radium does not endanger life, causes little or no discomfort, either during the time that it is in place or after the treatment, to say nothing of the short time necessary to be spent in hospital.

Radium may either destroy the cancer cell or may restrain its growth. It also promotes the formation of fibrous tissue, which when fully organized completely encapsulates the cells, that may not have been destroyed entirely. Also in contracting, it lessens the blood supply to these cells. This is more than can be said of surgery. Whether by knife, or by the electro-cautery, if the excision leaves behind any malignant cells, we are almost certain to have metastases later.

When available the high voltage X-ray, popularly known as the deep therapy treatment, should be used to cross-fire the pelvis from several different portals. This treatment used soon after the radium will in most instances take care of the metastases.

It is of the greatest importance that both patient and family physician be brought to

realize the necessity of frequent and regular observation of the patient, preferably by the therapist, himself. While it is the aim of practically all radiologists today to destroy the growth by a single application this is not always accomplished, and it therefore becomes necessary that the radium be reapplied at the proper time.

MALIGNANCY.*

W. W. CRAWFORD, M. D.,

HATTIESBURG, MISS.

It may be of interest to note that the	
Total number cases cancer reported in Mississippi in period 1914 to 1925 was.....	18,369
Total number deaths reported in Mississippi, period 1914 to 1925	8,372
45% of total cases reported during that period have died.	
Total cases reported in 1925.....	2,054
Total cases reported in 1914.....	1,555
Increase in reported cases in 1925 over 1914	24.3%
Deaths reported in 1914	554
Deaths reported in 1925	829
Increase in number of deaths 1925 over 1914	49.6%

Ten counties showing largest number of cases reported 1914-1925 are:

Hinds	1,399
Warren	856
Bolivar	775
Adams	762
Washington	708
Coahoma	679
Forrest	628
Holmes	607
Pike	505
Yazoo	479

Total 7,398, or 40% total for State during that period.

*Read before the Mississippi State Medical Association, Jackson, Miss., May 12-14, 1926.

Ten counties reporting smallest number of cases, 1914-1925 are

Stone	21
Perry	23
Benton	28
Humphries	38
Wayne	45
Choctaw	47
Green	47
Rankin	48
George	49
Webster	50

Total 396, or 2% of total
for State.

There are 45 public and private hospitals in Mississippi. A questionnaire was sent to each of them. Among other questions each one was asked the number of cases of cancer of all kinds applying for treatment in 1925. Replies were received from eighteen, and included all the charity and most of the larger private and semi-private institutions. A total of 861 cases was reported. Presuming, as a minimum, that 166 cases applied to the hospitals not reporting, we note that 1,027 or 50% total cases diagnosed in Mississippi in 1925 applied for treatment in the hospitals. Of 861 cases reported from the hospitals there were

304 cervix uteri

67 uterus

95 breast

52 stomach, a total of 418 for these four organs; almost fifty per cent of entire number reporting for treatment. Of the 861 cases there were 544 whites and 272 colored.

From the above data we observe that, despite the fact that while many of the 18,369 cases reported were minor skin cancers, all of which are curable and many of which were no doubt cured, 45% of the total number have died during the twelve year period. We note that while reported cases have increased 25.3% the deaths have increased 49.6%.

If we consider the number of cases that do not apply for treatment, those that are not properly diagnosed, and a reasonably large group that involve internal organs, and are the remote cause of death even though not recognized, the above figures would no doubt be materially increased.

It may occur to some of you that the Bureau of Vital Statistics in Mississippi is functioning better than in former years, and that affords explanation for the seeming increase in cancer. That is true, but the same efficiency that may be responsible for an increase in the total number of deaths is in evidence in the collection and tabulation of living patients with cancer. It therefore seems apparent that our State is no exception to the accepted fact that the death rate from cancer is increasing throughout the civilized world. This observation affords added cause for alarm in view of the fact that both profession and lay public have become more keenly alert to their responsibilities in the matter, due to the activities of the public health service, the American Society for the Control of Cancer and other agencies.

The treatment of malignancies and pre-malignant conditions has made definite progress during the past decade, and no doubt many more cases are being cured in certain groups than in former years. But despite this fact, the death rate is advancing throughout the country at the rate of 2½ % per annum.

ETIOLOGY.

Multiplied millions are being spent in our research laboratories, but, aside from the more or less spectacular reports of new discoveries at intervals, discoveries that do not meet the acid test of investigation, we find the profession in the same uncertain attitude with reference to etiology as that which confronted scientists when Conheim promulgated his inclusion theory.

Accepting the proven fact that all cancer cells belong to the embryonal type, Durante

claimed that injury or irritation may cause normal cells to revert to the embryonal type and thus become cancer. The reversion of type was not accepted by scientists, but in the light of our present knowledge, prolonged irritation is regarded as an important, if not the most important factor. The frequent development of cancer of the lip, cervix, gall bladder, etc., seems to lend force to the irritation theory. Even prolonged irritation from X-ray and radium may produce cancer. The essayist saw a man not long ago with cancer on the dorsum of both feet, resulting from prolonged exposure to X-ray, the primary condition being eczema.

Heredity has long been regarded as a factor in the production of the disease. So many instances where a number of cases have been reported in the same family have been recorded that one cannot afford to dismiss it as a potentiality. Da Costa says, "Heredity is an extremely uncertain influence, though not an influence to be denied."

The exhaustive study of Dr. Maud Slye of the University of Chicago on heredity of cancer as it applies to mice would seem to prove that it is a factor of serious significance. It has been suggested that one should at least be reluctant to marry into a family with a cancer history. This would seem to be especially important if such an individual's family was also contaminated by this disease.

Barclay of Manchester presented a very interesting paper on the etiology of cancer at the last meeting of the American Medical Association. His discussion, though largely theoretical, is worthy of consideration. He thinks the condition that we diagnose as cancer is merely a local expression of an unknown factor in malignancy that he designates as a hypothetical X. The surgeon may remove the individual lesion with the knife or by the application of radium or X-ray, but so long as this mysterious X is present in the blood, the patient

will continue to be ill, and finally succumb, even though he may not develop evidence of local recurrence or metastasis. He insists that for unknown reasons the X may disappear after local evidence of cancer is seen, and that it is only cases belonging to this group that are cured by surgery, etc. In support of his theory he calls attention to the fact that after removal of any given cancerous lesion the disease may reappear in some portion of the body so remote that it defies any other explanation than that which is afforded by his X.

Luden of the Mayo Clinic thinks that certain chemical substances in the blood, notably cholesterol, influence the growth of cancer.

Borst, of the University of Munich, noted that when cholesterol was fed to rabbits it produced cancer nodules on the ears that had been previously irritated, whereas no such development was noted in the controls.

PARASITIC THEORY.

In spite of the fact that the research laboratories have not been able to isolate an organism that can be regarded as a constant factor in the production of cancer, there is and always has been a feeling on the part of many members of the profession that ultimately cancer would be classified as of microbic origin. Much of the research work has been conducted along that line.

Dr. W. B. Coley, in the March issue of the *Therapeutic Gazette*, says, "In an earlier paper published in 1893, I stated that the most satisfactory explanation was to assume that both sarcoma and carcinoma were of extrinsic origin, or due to some microbic cause or virus. For more than thirty years I have believed in this theory and clinical evidence strongly supports it."

Nuzum, of Augustana Hospital, Chicago, read a paper at a meeting of the American College of Surgeons in New York in 1924, in which he claimed to have cultured a

micrococcus from the cancerous breast of forty-one women and was able to produce cancer of the same type in the abdominal cavities of mice in thirty-eight instances, from these cultures, and in man once. In a recent personal letter he states that he has had further success in his work and hopes to be able to announce a serum at an early date.

Gye and Barnard of London announced a few months ago that they have discovered an organism that will be of epoch making value in the management of cancer. The most recent reports, however, are not regarded as being as full of promise as was at first thought.

TREATMENT.

Regardless of our interpretation of the etiology of cancer, the same fundamental principles should guide us in its treatment for the present.

Dr. W. J. Mayo says, "Every cancer is primarily a local disease whose removal, in the early stages, insures cure."

Bloodgood says, and I think truly, that by early recognition of the disease and those abnormalities that eventuate into cancer, the mortality can be reduced fifty per cent in less than five years. In order to do this it will be necessary that a systematic and intensive campaign of education be conducted among the laymen. Much is being done in isolated communities, but until the profession becomes more keenly alive to its responsibility the problem cannot be solved. Through information that has already been disseminated, the public is in a receptive mood and will gladly follow any program that may be outlined by the profession.

The ultimate goal should be periodic physical examinations for every man, woman and child in our commonwealth. This is not as utopian as some may think. I presented a paper to this Association five years ago, in which I advocated this very thing. Similar papers have been read on

the subject before other associations since then, and at a recent meeting of the Board of Trustees of the American Medical Association a free discussion was given the subject. As stated, I am convinced that the public is ready, and it only remains for the profession to outline a program. Until such machinery is actually put into motion we can do much that will be helpful.

If every member of this Association will make three talks to small groups, women's clubs, parent-teachers' associations, schools, etc., during this year, it will bear fruit that will astonish you. During the past few years I have made a few talks on this subject and have been surprised at the interest shown.

The word cancer conjures a horrible picture in the minds of every one, and when the people are told that it is not necessary to have this disease, the question naturally arises, "How am I to escape?" Just here is where they are to receive their first lesson in regard to the importance of early and complete physical examinations. They should be told that if they will have small warts, moles and other blemishes about their body, removed, small lumps in breast removed, keep their teeth in good repair, and avoid all sources of chronic irritation, they may greatly reduce their liability. Women should be told that any irregularity in regard to their menstruation, any leucorrhea, or any tendency to cystitis, is of sufficient importance to be reported to the family physician. Just a year ago a prominent woman beyond sixty, who had passed her menopause many years ago, consulted me with a mild cystitis. Two months later she reported a small hemorrhage from the uterus that proved to be due to cancer of the uterus. Another patient consulted me in regard to a mass under the arm that proved to be a metastasis from a primary cancer of the breast that had entirely escaped her attention. The first patient was saved because she was treated early;

the second has died from a metastasis in the liver.

We must educate the public in the necessity of early physical examinations. In the meantime let us not forget that we owe it to the patients who are consulting us every day to be thorough in making our examinations. A patient may consult us about a minor matter. We may write what may be an appropriate prescription for the minor ailment, and the patient may be allowed to walk out of our office with an unrecognized cancer of the breast or uterus, or some other major trouble, just because we have not gone carefully into the history of the case. I am sure every one of you recall instances when patients have consulted you in regard to simple illnesses and have been surprised when your examination has revealed a condition of vital import. On the other hand, many women are so shrinking and timid that they frequently develop an advanced cancer before any examination is permitted. I see cases of cancer of cervix in my clinic every year that have the vagina and rectum already involved before a physician has been consulted. A woman consulted me last year with an advanced cancer involving the entire breast. The neoplasm had already ulcerated through the skin, and yet she had kept even her husband from knowing about the matter until a few weeks before she came to see me. These are deplorable pictures and in some instances are due to the conviction on the part of the patient that nothing can be done for them when they have cancer, and therefore they will hide their condition from the family and the doctor as long as possible. They must be taught the importance of co-operation with their physician. They must be taught that a large percentage of the cases can be cured, provided they report to the doctor for treatment.

Surgery, radium and the X-ray constitute our most dependable forms of treatment; surgery in the early cases; surgery

reinforced by radium and X-ray in the fairly advanced cases; radium and X-ray in inoperable cases.

Statistics from the Mayo Clinic show that 72% of cases of cancer may be cured when operated while the disease is localized; whereas only 19% respond after even moderate metastasis has developed.

Almost 100% skin cancers respond to radium if treated before they have metastasized into the deeper glands. In cancer of the lip radium in needles, plus dissection of submaxillary glands and a few exposures to X-ray, yields excellent results.

Whenever possible do a radical operation for cancer of breast and properly distribute radium in wound for a few hours. This should be followed by exposure to X-ray to the limit of tolerance every two or three weeks for a period of several months. We have followed this plan several years and during that time have not had a single recurrence in wound area.

When the title of this paper was sent to the Chairman it was my purpose to devote the major portion of it to the discussion of malignant conditions of the uterus, with special reference to the application of radium; but when it was learned that three other papers to be read on that subject, I decided to abandon that idea. I wish to say in passing, however, that after trying every other plan from a radical dissection to the Percy cautery, I became convinced several years ago that the proper application of radium is so far superior to other methods that it has been adopted as the method of choice in all our cases, both early and late.

In 1891 Dr. William B. Coley of New York called attention to the treatment of malignancies, especially sarcoma, with the mixed toxins of erysipelas and prodigiosus. While this method of treatment has not

been attended with a high percentage of recoveries, yet, when we recall that it has been administered largely to inoperable cases, even his small number of cured patients warrants its use. In 1913 he read a paper before the International Cancer Research Conference at Brussels, in which he reported 710 personal cases with 80 cures, a little more than 10%. Since that date he has reported a number of additional cases and 125 have been reported by other physicians. We have used the serum at intervals during the past eighteen years, and while we have had only one cure in a metastasis following removal of a large sarcomatous ovary, we have used it as a prophylactic following operations for sarcoma and have not had recurrence, though, of course, it is possible that there would not have been any in these cases.

In February we opened an abdomen and found an inoperable sarcoma of ovary. Patient has been taking mixed toxins since that date and marked improvement has been noted, though it is too early to report the end result. Dr. Hightower and I are also giving it to a case of inoperable retroperitoneal sarcoma in the person of a young woman on whom he did an exploratory operation in March. The tumor has reduced in size, though no definite prognosis can be made this early.

Dr. Edward Oehsner of Chicago has been treating some cases with colloidal gold during the past two years and in a recent letter states that he has cured a few of them.

Dr. Blair Bell, of London, during the past few months, has reported success with colloidal lead. His experience, while encouraging, does not cover a sufficient period of time to be of value at present.

RADIUM IN TREATMENT OF CERVICAL CARCINOMA.*

J. P. WALL, M. D.,

JACKSON, MISS.

The lot of the woman affected with uterine cancer is a pitiful one; neglecting treatment she must endure the inevitable fatal course of a most loathsome disease. She nears the end of her torture, and learns when too late, that she might have received relief. Because of her belief in false prophets and fallacious theories, she has waited till her case is hopeless. This is one of the tragedies of every day surgery.⁽¹⁾

In 1896 Henri Becquer⁽²⁾ after carrying a radio-active substance in his pocket sustained a burn. It was this burn that gave Pierre Curre the idea that radium might be of use in medicine. Though tried many times it was not till ten years later that Henri Dominici actually demonstrated that radium therapy was an actuality, and that various depths could be affected by different degrees of filtration, and that such rays bear a relative weakness for healthy tissue, up to a certain point, while on the other hand they preserved all of their special action on neoplastic tissues.

Today radium occupies an indisputable place in the treatment of cancer of the cervix uteri, especially of the inoperable variety. With this most valuable agent there are wonderful opportunities for doing good, and equally distressing possibilities of doing harm, unless properly employed.

"The painful, often disastrous, and occasional fatal results that sometimes follow its application, should teach us that it is not a harmless remedy, and great care and training should be brought to its application."⁽³⁾

*Read before the Mississippi State Medical Association, Jackson, Miss., May 11-13, 1926.

Dr. James Ewing of New York says⁽⁴⁾ "Radium is the first rational treatment of cancer ever devised."

"Its ability to relieve hopeless conditions of the pelvis has found no counterpart in the entire history of medical practice. When Madame Curre began the studies that gave this element to the world the sole means of relief meted out to these unfortunate women was opium in increasing dosage. While this did help the pain, it did nothing to decrease the hemorrhages, foul smelling discharges from the broken down cancerous tissue, which makes such a patient a great care and trial both to herself and her carers."⁽³⁾

Radium lessens
Pain.

Controls hemorrhage.

Decreases foul discharges and lessens
odors.

Relieves symptoms, helps patient to be
more cheerful.

In the average case of cancer of the cervix,⁽¹⁾ there is a large percentage of undifferentiated cells. Surrounding the cervix, in close proximity are the ureters, bladder, and rectum. Cancer cells emanating from the cervix, at a very early stage, so distribute themselves near and around these organs, that surgery, which is both radical and safe, is impossible. Radium by destroying the embryonic cells before it injures normal, mature cells, takes precedence over surgery in these advanced cases of cancer of the cervix.

Experiments conducted at the Middlesex Hospital, London, show that "Radium is able at any rate in some cases to arrest the advance of microscopic cells growing at the edge of the permeated lymphatics which form the advance guard of carcinoma."

Dr. Phfaler of Philadelphia has shown that "one of the advantages of radiation over surgery is that it can be used more

intensively, and can be used especially to surround the growths."

Radiation treatment is practically painless, and consequently has a greater appeal to the patient, and many who refuse operation at first may be prevailed upon to submit to it after a preliminary course of radiation.

The British Medical Research Council in a recent report summarizes the wide variation in the practice of different hospitals: "Whereas from the surgical point of view, it may be of the first importance that the most probable tracks along which the disease extends be given heavy doses of radiation, much depends upon the radiologist's point of view upon how certainly these are known, and how large a dose of radiation may be administered with safety to the several regions of the body which are being invaded."

Dr. Case of the Battle Creek Sanitarium⁽⁵⁾ says: "The ideal method of treating cancer will be one which while doing the greatest harm to the tumor does the least damage to the recuperative powers of the patient. * * * We have in radiation therapy a means of influencing the cancer cell itself and its environment. Not only do we reach the superficial neoplastic tissues, but this agent is one which has the power of considerable penetration; it can cause the malignant tissue to regress or die; it has an elective action for a great many of the varieties of cancer cells. When surgery fails it is because (a) recurrence or metastases develop, either the tumor has not been completely removed, or the mass having been removed clean to the border of visible or palpable disease, there remains behind invisible cell nests, or in the surgical manipulation traumatic transplantation of the malignancy has occurred; (b) once the operation complete and the healing complete, the role of the surgeon is finished, and he is really helpless against further eventualities; (c) in advanced cases it is on the face of such things useless to attempt

more than palliative treatment. * * * Radiation therapy counteracting these deficiencies in considerable measure, has a direct effect upon the tumor, and most tumors have at least some susceptibility to radiant energy; unlike the knife, it acts upon the depths as well as the superficial areas, exercising an elective selection for malignant cells, rendering later surgical removal safer, or restricting the area of malignant involvement so that often it is possible by later intervention to remove it surgically."

Five years ago I heard Dr. John G. Clark of Philadelphia say: "I have almost reached the point where I believe radium is the best treatment for all cases (speaking of carcinoma of the cervix uteri) regardless of the extent of the lesion. I do not feel, however, that I have reached the point yet where I am able to take the stand squarely in favor of irradiation alone, but I have so nearly come to this point, I very seldom do a radical operation." Last October, in Dr. Clark's Clinic I heard his assistant, Dr. Norris, make the statement, that they had not done a hysterectomy for carcinoma in that clinic for the past three and a half years, and he showed charts of the results with radium treatment, as compared with the former radical surgical treatment, and in the comparison the honors went to radium.

There are limitations to the application of radium and especially should it be remembered:

- A. All cachectic patients bear radiation poorly.
- B. Tissue subjected to previous radiation is much more resistant and this argues for the administration of the total dosage planned in any case, for 10-14 days.

Surgeons as a rule are slow to accept it as a palliative agent in advanced cases of malignancy, and even in their acceptance

are rather reluctant, as more or less of a "Hobson's Choice."

Most competent observers are of the opinion that radium is the best palliative means we have in inoperable cancer, and as Dr. Howard A. Kelly says⁽⁷⁾ "Palliation is relief more or less complete of distressing symptoms while the disease obviously remains to advance at a later date."

While we know that radium is the best palliative measure we have in inoperable cancer, we also know that it has curative powers that are not possessed by any other agent at our command in the treatment of cancer. The surgeon has been crying for years to have cancer cases sent to him early, and promising cure while it is localized, the same cry comes from the radiologist, and with the assurance that his statistics of end-results are equally as good and in many cases better than those of the surgeon.

In the use of radium we secure:

- A. Gradual destruction of cells and fibrous replacement.
- B. Necrosis when large doses are applied.

In its use a dose is given causing a maximum amount of destruction to malignant cells at the point of application and because of the short wave length and consequent penetrating power of the radium element, the force of this goes several inches beyond the point of application and so attenuates the cells it does not kill, that the tissues have an opportunity to build up antibodies against further extension of the disease.

There is a marked similarity between the changes that take place in a Peyer Patch during a typhoid infection and the changes that occur after the application of radium. You will remember that in a typical four-week course of typhoid fever that there is

- A. Inflammation of the Peyer Patch.
- B. Necrosis of the inflamed area.
- C. Sloughing of the patch.
- D. Granulation.

Dr. Henry Schmidt⁽⁸⁾ has made some very interesting studies along the changes that occur locally after the application of radium, and they may be summarized as follows:

- A. There is a serous infiltration, coming on as early as the third day, but usually the eighth to the tenth day.
- B. The stage of degeneration of the cell nucleus, protoplasm and cell wall.
- C. The stage of inflammatory reaction with a rapid growth of blood and lymph vessels.
- D. The stage of repair, shown by replacement of the dead tumor cells with connective and granulation tissue.

The above processes occur successively, beginning within a few days after the application of the radium, and are usually completed within one to three months, but regenerative processes may be delayed because of improper technique or systemic reaction. The first two changes are due to the direct applications of the rays on each individual cell, and are an indication of more or less trauma, resulting in an immediate cessation of mitosis and later on of breaking up of the nucleus. The third stage expresses the reaction of the host to the injury done. It is an inflammatory reparative process and reaches its highest and most significant function in the phagocytic action of the microcytes and macrocytes, i. e., the leucocytes, the fibroblasts and endothelial cells. If this phagocytosis would be general throughout the tumor, the latter would be completely destroyed and removed. The fourth stage is the end stage,

the regenerative process. Normal tissue cells fill the excavations in the tumor substance and the surface epithelium regenerates, or necrosis following, the healing results in scar formation.

The intensity of these changes depend upon:

- A. Amount of element used.
- B. Time of duration of its application.
- C. Size and form of capsule.
- D. Screening employed.
- E. Distance maintained.
- F. Extent and character of the growth.
- G. An elevation of temperature indicates
 - a. Complicating infection.
 - b. Extensive destruction of tissue.
 - c. Absorption of tumor detritus.

Concluding Dr. Schmidt says:

- A. Degeneration observed in radiated carcinoma cells is fairly uniform⁷ and affects mainly the nucleus, and the cell is rendered harmless. It is an indication of the efficiency of the radium in the successful treatment of carcinoma, if a quantitative and qualitative homogeneous radiation has been applied to the entire cancer.
- B. The reparative process in the disease tissue varies, depending upon the radiation dose and the reactive process of the patient.
- C. Refractive results after a correct radiation treatment may be explained from lowered resistance of the patient. She can not activate antibodies that are necessary for the systemic reaction. A persist-

ent leucopenia means a bad prognosis. An absence of all constitutional symptoms indicates a system so weakened by the disease that treatment is hopeless.

If the work done in such centers as the Brady Institute, Johns Hopkins Hospital, Memorial Hospital, New York City, the London Radium Institute and the Chicago Hospitals, can be taken as an indication of what can be done, there is shown a marked benefit to all patients treated, and many cured, and especially is this remarkable as most of the cases are far advanced when first seen; and all cases were benefitted for a period of one to three years, then to die of distal involvement or some intercurrent disease.

In general, rapidly growing tumors of the cellular type respond more readily to radiation, but the end-results are unstable because of the danger of early and widespread metastases; growth with a tendency to early and wide metastases are unfavorable for cure; but growths with a tendency to remain localized and to late metastases are more favorable to radiation treatment.

Cancer of the cervix uteri may be classified according to the extent and the character of the lesion.

A. Extent of the lesion:

- a. With intensive involvement and fixation of the uterus.
- b. With lateral infiltration of moderate degree, without fixation of the lateral areas.
- c. Where the disease is limited to the cervix and mobility is not interfered with.

A rectal examination is necessary to determine the amount of mobility of the uterus and the extent of the involvement of the process. In the first group, operation can not do any good and always does harm in that it opens up channels for the dis-

semination of cancer cells; while the judicious use of radium will check the hemorrhages, relieve the pain and odorous discharges. In the second group the cures effected by the surgeon are indeed very rare, but radium may cure the cancer and always palliate it; in the third group radium gives a higher percentage of cures than does operation, minus the mortality and morbidity.

B. Character of the lesion:

- a. Endocervical, or medullary type.
- b. Flattened, ulcerative type.
- c. Proliferating, granulating type.

The first group originating in mucosa of cervical canal and forming circumscribed nodule growth and unaccompanied by any external ulceration has a predominating early symptom of slight uterine hemorrhage, followed by scanty vaginal discharge; vaginal examination reveals little more than an enlarged and somewhat nodular induration of the cervix; such a growth sooner or later breaks down, ulceration and degeneration rapidly occur and the cervix is speedily transformed into a crater from ulcer with the apex at its internal os; its walls are thin, hard and extremely friable; this is by far the most malignant form of the disease, as lymphatic infection takes place at an early date, and the base of the bladder becoming involved, vesico-vaginal fistula often results.

In the second group the disease manifests itself as a flattened, superficial ulcer with hard edge and a flat granulating base. It very much resembles a simple erosion, and is not infrequently mistaken for the same. This growth infiltrates slowly and tends to spread by surface extension.

In the third group we have the so-called cauliflower form which springs from the surface of the cervix, forming an irregular

fungating mass that is friable, and may also fill the vaginal cavity.

Like all new agencies in medicine radium has run the gamut of unwarranted enthusiasm to fatalistic pessimisms, but a proper evaluation of its effectiveness is being reached, and with your permission I would like to quote some authority on this subject:

Dr. Wm. S. Stone of Memorial Hospital, New York, says: "In addition to supplanting operation as the method of choice in a number of fields of malignant neoplasms, the use of irradiation has so limited the field of the applicability of the radical operation in numerous other cases that it is becoming a questionable procedure. In uterine cancer it is entirely eliminated—the use of irradiation therefore has made greater refinement in diagnostic work necessary."

Dr. Maxwell, from the Gynecological Service of the University of California, summarizes her findings: "From our review we feel warranted in concluding that radiotherapy has a definite place in gynecological therapeutics; we do not believe that it cures inoperable growths, but feel that it aids the patient by cleaning up the ulcer and arresting hemorrhage. This it does in the majority of cases. Death is usually postponed and a large proportion of the cases are temporarily relieved of pain. Even more can be expected of border line cases. Operable cases should be treated surgically, after preliminary radiation."

Dr. John Osborn Pollack⁽¹¹⁾: "It is admitted that its use in cancer is established, and personally we feel that it is only a matter of time when it will replace operation, for all cancer is cured by the individual producing the immunity against the disease. This immunity operation breaks down and hence cancer grows, and metastases takes place, unless the removal has been complete."

Dr. John G. Clark: His clinic has not operated a case of uterine cancer for over three and a half years, and their results

with radium are better than when they did operate these cases.

Dr. Wm. Mayo⁽¹²⁾: "Radium is taking the place of extensive operation for the cure of cancer of the cervix with the exception of the very early cases, and it is possible that it will soon be the method of choice in all cases either alone or combined with operation."

Dr. Louis Frank⁽¹³⁾: "In early carcinoma cervicalis, although radical operation continues justifiable in the hands of the best operators, equally as good, if not better, results, considering the primary mortality, are obtained by radium. Late cases may be improved and palliated by radium as by no other means at our command. If the five year period of curability is to be accepted as indicating a cure, then the results of radium treatment surpass by far those affected by the profession at large in the treatment of cancer of the cervix by surgical means."

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RADIUM VERSUS SURGERY IN THE PATHOLOGICAL UTERUS.*

W. H. ANDERSON, M. D.,
BOONEVILLE, MISS.

Of all diseases that history records, of all diseases that we now know, of all human diseases that medical science has waged war upon, cancer has been the hardest to conquer, and today it remains the major enemy of the human race. Of all the organs of the human body, cancer reaps its greatest vengeance upon the human uterus, and in a double portion to the ones which perform the noblest human function, that of childbirth. By a pathological uterus we mean one that is impaired, sick or crippled. There are too many of those conditions to even mention, much less discuss. A short paper can only hope to serve the same purpose as the flapper's dress, cover a few of the most important points, and cause you to think.

In discussing this subject I am not bringing you any statistics. I have none on paper. This is to my discredit. But it should not mean that I, nor that you, do not have some fairly accurate knowledge of the pathological uterus. The time has come for the country doctor to keep records and compile statistics; but if you have not done this, it is not sufficient reason for you to put your head under the sand while the statistician and record specialist talks at your medical meetings. For verily I say unto you, that if you have to chose one, it is of greater importance to study the patient, as many of the general practitioners are doing, than to major on the history sheets and laboratory reports.

There is no subject of greater importance to more doctors than to know whether to operate, or not to operate, whether to use radium or not to use radium, whether to use both or neither upon the uterus that you see almost daily. The most important

of all is how to keep the uterus healthy, non-pathological. This problem is so big and so complicated often times that we feel that it is beyond us. Men who have endeavored to study cancer from every angle, men who have made the minutest study of the different types of cancer cells in every variety of cancer in every organ of the body still feel mystified and helpless. Commendation, honor, and congratulations to those tireless workers, lovers of truth and sympathizers of suffering humanity. The pathological uterus is not unlike other diseased organs, it is cured best by prevention. The more familiar we are with the preventive methods the better we will know when to use radium and when to employ surgery. We would not give up even one specialist, not one careful laboratory worker, from the staff, but we must enlist the active co-operation of the general practitioner and the general surgeon, if we are to solve the problem. The general practitioner is better prepared to administer the preventive methods, practice better obstetrics, preach good hygiene and healthy living, get the people better born and better lived. He knows the history better, knows the family tree, knows better the material in the particular human automobile, knows better the kind of life the patient has lived and the conflicts through which the uterus has been. He knows better perhaps what this patient can stand; how much shock, how she will react to an operation, and better how to build her up and raise her general batting average after operation or after radium is used. All this in my opinion counts for a great deal more than the kind of stitch you take in your particular hysterectomy or your idea of the exact slant at which you apply your radium needle. The human organism that develops cancer most commonly is the one that is under par constitutionally speaking. Local irritation and infection may break down the constitutional morale. Cervical and vaginal is just as rational as oral hygiene. It is just as reasonable to apply a little silver nitrate

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

to an excoriated cervix the first day it begins as it is to apply it to the conjunctiva. Millions of more cervical and vaginal cleanliness might mean multitudes less cancer.

Lacerations of the cervix with ectropion require surgery provided there is no malignancy, and in the early stage, maybe radium plus operation. Certain polypoid growths and certain types of endocervicitis are better treated by surgery. But broadly speaking in terms of malignancy of the uterus, an involvement below the internal os should be given radium as the treatment of choice, while those above should have surgery. From my limited experience in general surgery and radium therapy, from observation, from the literature and from conversation, radium offers a better chance in cancer of the cervix than surgery, while in benign tumors and malignancies above the cervix, surgery is to be preferred. If radium will destroy cancer cells, and I believe it will, the cervix furnishes the most ideal location to get the best results. Here you may get a strong irradiation in every direction for two or three inches without doing damage to other organs. The normal tissue of the cervix seems to stand radium exceedingly well. And again the abundant blood and lymph supply to the cervix along with its proximity to other structures make it almost impossible to remove it surgically without scattering some of the cancer cells into one or both of the channels, and, too, in an operation in which a total hysterectomy is done, there is more shock and more lowering of resistance, and thus the patient is not left in as good condition to prevent the growth of the wild cells when they stop in another organ, while with radium, especially in the early stage, the knockout is less and the radium is the best means we have to block the lymph and blood channels and to confine the cancer cells locally. Every stage of malignancy of the cervix is better treated by radium, unless there are complications above that prevent it, or possibly in a very young woman in the earliest stage with a very badly lacerated cervix,

operation might be preferred in order to conserve the ovaries.

In the early days of radium therapy cancer of the cervix was thought of in terms of years, then later months, now weeks, and a little later perhaps it will be days and maybe hours as in appendicitis, provided there may be a method of staining the cells and using the microscope without removing a section. The early diagnosis is just as important for radium therapy for a cure as it is for surgery. The early diagnosis is our most important problem. If it could be done without taking a section it would be much better. Taking a section is a little operation; but like a little learning, a little cutting on a cancerous cervix, may be a dangerous thing. If the patient is past forty, and no complications in the fundus nor the appendages, the history, constitutional symptoms and local appearance are all in line for a malignancy, it is wise to go ahead whether you know you are right or not, know from section. If it is a case in which cancer is to be differentiated from an excoriation or early ulceration, a treatment test may be applied that will give valuable help. Use a gallon of hot water with one-half ounce of zinc sulphate and an ounce of boric acid—other antiseptics may be just as good—use with fountain syringe with bivalve speculum inserted, and follow with local application of ten percent silver nitrate, use every other day and if there is not a decided improvement in three or four treatments, you have good evidence in favor of malignancy. This is a good treatment to keep up after radium is used no matter what the stage. To build up the patient in every way possible constitutionally and relieve local irritation can not be too strongly emphasized. The old method of giving a patient all the radium that it was thought she could possibly stand and dismissing her never to return or possibly to come to see you in a year if living, was like the early treatment in syphilis, one shot and forever cured; like Uncle Jim Hatcher in the days

before the stock law, on the first day of April saturated the lousy yearlings with kerosene, touched a match to them, opened the lot gate and bid them adieu until the next fall. They didn't all come back.

There is one non-malignant condition of the cervix that I believe may be benefitted by radium, four to eight hours with fifty milligrams. This is the very large, soft, boggy, hypersecreting cervix. In chronic endocervicitis with laceration, surgery is the preferred treatment, even the best in stubborn cases if there is no deep laceration. In applying radium to cervix, pathology of the body, fundus and appendages are to be duly considered. In a patient under thirty-five with involvement of one or more of those, surgery might be preferred.

In non-malignant conditions of the body or fundus of the uterus, radium is exceedingly helpful in the so-called idiopathic menorrhagias in young women, and also the dysmenorrheas both of which in many cases have an intra-mural fibrosis as a background. Six to eight hours with fifty milligrams in tube in the uterine canal given just after the flow stops, works wonders. Some of the good results may be due to a regulating effect on the ovaries, or in some other unknown way may have a good constitutional effect. In symmetrical fibroids of the uterus no larger than a coconut, radium is the treatment of choice provided the patient is near the menopause and provided there are no contra-indications in the appendages. Many use radium in much larger fibroids and in small nodular fibroids. In my opinion radium is being used in many of these non-malignant cases where surgery would serve the patient better. There needs to be a more careful history and a more careful examination of the cases who "flood from the Change of Life." This flooding may not always be caused by gray hairs. It may be a fibroid tumor no larger than your thumb, but this one little tumor may be sub-mucous, intra-mural and sub-serous, in other words may extend

through and through the wall of the uterus. But this type of tumor in the wall of the uterus, would better be removed by surgery. It is only the small symmetrical ones that are ideal for radium. Malignancy of the uterus and its appendages are better treated with surgery, if they have not passed the operable stage and if they have passed the stage where any method will avail very much. Many small fibroids, and in some cases very large ones, may be removed and the uterus left in a functional state. No doubt more myomectomies should be done in young women. Radium therapy may be supplemented to advantage in some cases with the X-ray, in the advanced carcinomas of the cervix and in cases having pain in the sacral and the lubar regions.

For a partial and a brief summary: In pathological conditions of the uterus, in a vast majority of cases, either surgery or radium alone is to be employed, radium being used in some cases of uterine bleeding to check flow until patient may be put in better condition for operation. In a vast majority of cases radium alone is employed in cancer of the cervix regardless of the stage at which it is found, operation being employed in some cases when the patient is a very young woman and the malignancy is in the very early stage, or there are pus tubes or fibroids or some condition contra-indicating radium. Idiopathic bleeding and dysmenorrhea in young women and symmetrical fibroids up to size of a coconut in women nearing the menopause, should have radium therapy. Other pathological conditions in body, fundus and appendages of uterus including carcinoma of body and fundus should have surgery. A most careful examination should be made to determine which is to be preferred in each case since there is danger in the shock of radium and operation both lowering the resistance of the patient to where a few remaining cells might be more dangerous. A great deal of attention should be given to prophylaxis of pathological condition of the uterus by keeping up the body resist-

ance, by better obstetrics and by more scrupulous local cleanliness. Careful study by the general practitioner should be made of these conditions and of the hereditary tendency to cancer, the doctors in the country and small towns having a better chance to observe this, perhaps, than the specialist in the city who has a more floating clientele. After radium or surgery in cancerous conditions of the uterus, much attention should be given to local and general hygiene and to building up the body resistance of the patient since it is very probable that a person may inherit or acquire a constitutional tendency to cancer.

DISCUSSION.

Dr. A. G. Payne (Greenville): I feel the pendulum is swinging to the destruction of this dreadful condition by other means than surgery. I daresay if I were to ask the men in this audience to take a stand on one side or the other the majority of you would favor destruction of the cancer in situ rather than surgery.

Cancer in its early stages is a limited disease and any means of early recognition which will allow its early removal, the only known method of cure, is well worth our intense consideration.

Accurate knowledge of the cells' origin, the conditions which promote its proliferation, its attempts at differentiation, its invasive qualities and the body's method of preventing cancer, a service far greater than curing it. I am grateful to Dr. Anderson for calling attention to this phase of the subject and I am sure if we pay more attention to prophylaxis we would have fewer potential cancers.

The treatment of cancer is one of the most interesting, if not the liveliest problem in surgery today. The uncertainty of cure by any method is the bugbear of us all, and yet men talk about curing cancer. They seem to imply if we only had enough radium to apply to all these cancers we would put this terrible scourge of the human race to flight; we would not have to worry about inherited tendencies to the condition.

The introduction of new and valued agents of destruction into treatment has now increased the modes of attack to a point where we must decide upon the merits of surgery, or some other means, alone or in combination, which will destroy the growth in situ.

Surgery either as a primary effort or secondary to assist the introduction of destructive

agents will always maintain a place in the cure of internal cancer because in no other way can the situation be determined. One can only see now by studying the literature that complete excisionists are pitted against destructionists in situ and vice versa. Trial experience and accumulation of data are necessary to test the value of these plans and locate their use. There is no question but what the study is activated by the highest motives, but it is usually true that concentration on one line, whether it be surgery or otherwise, leads to use without due consideration of the case.

The classification of cancer by Broders gives us a working basis as to diagnosis, treatment and life expectancy that we have not thought of dealing with this subject heretofore, and will in the future be of great advantage to us in giving prognosis. It accounts for our not understanding the many severe conditions that have withstood radical removal or destruction in situ, or gone by the five-year limit in apparently good health, while some of the seemingly milder cases have died early, although the same treatment was used with the seemingly more severe condition.

Dr. J. C. Crisler (Jackson): I have been a member of this Association about 27 years, and I feel that we have never had as fine papers as we have had this morning. I also enjoyed the address of Dr. Smyth, and I would like to inform him that the Senior Austin Flint was also from Natchez.

Dr. Crawford and Dr. Ullman have covered so thoroughly the general discussion of cancer that they have left little further to say. I can only emphasize what they have said. We so often see women coming to our office that have not been examined as thoroughly as they should. Cancer of the breast in women, a small lump in the breast—and it has been stated by those who know that more than 60 per cent. of tumors of the breast, regardless of how small, are cancer, or will be in time—a small nodule, is usually the beginning, something which the woman thinks amounts to nothing. One has to examine that breast before the majority of women will admit that there is anything wrong. I regret to say that I have allowed some women to go to where inoperable cancer of the breast finally came on, when I should have found it a year or two before. As Dr. Crawford has so well stated, cancer of the breast in women must be emphasized by the general practitioner, and this matter should be brought before all high schools and public schools. There should be lectures in the schools, and certainly in women's colleges, to educate them about this because we cannot get it sufficiently before

the general public—they do not read the literature concerning these things.

Dr. Ullman in his discussion mentioned pain as being one of the late symptoms of cancer of the uterus. We so often see cancer of the cervix uteri without pain. Any unnatural flow should call for an examination.

I agree with Dr. Wall that radium has a great place, but I cannot believe that it is the only treatment for cancer of the uterus.

Dr. Anderson advises the use of radium for excessive flow, but I think in the course of time he will change his ideas along that line.

Dr. W. A. Bryan (Nashville, Tennessee): I feel there are two sides to this radium-surgery proposition, but there are two points I want to mention where I think the profession is making a mistake. Here is a man—take Clark of Philadelphia, who uses 50 milligrams for 72 hours, and then Kelly says he uses 250 milligrams for 12 hours. But here is a fellow who only has 10 milligrams of radium, and he says, "I will use that five times 72 hours." Now I think a lot of doctors are being fooled in that way. That does not do any good.

Another point is the periodic examinations. That is the biggest joke—Mark Twain should have had it—these men going over the country saying everybody should be examined once a year. Who is going to examine them? There are about 120,000 active practitioners in the United States. You can take out about one-half of that number—specialists, men who have bad hearts and cannot go out at night, etc., and you have 60,000 doctors to examine 120,000,000 people in the United States. I am not saying it is not right, but if the doctors have to examine all these people who is going to wait on the sick people? It is absurd. Suppose the people said, "All right, we will all come in next year." It is hard enough now. The relief is, as Dr. Crawford said, you will not get everybody to do it. But I think there is a middle ground, and if you are reasonable a great improvement can be made in the way of detecting disease in the early stages. But you cannot examine all these people, there's no use talking.

Dr. J. W. Barksdale (Jackson): I heartily agree with Dr. Bryan with reference to the size of the dose of radium used. 100 milligrams is required as a working unit in the treatment of cancer, and while we may perhaps do almost as much good with a lesser dose, I believe the principle is correct that smaller doses over a longer period of time do not accomplish as much. The commission appointed by the American Col-

lege of Surgeons two years ago to study the question arrived at the conclusion that radium at this time was giving the highest percentage of cures of anything we had at our command. The average dose that was being used was 100 milligrams for about 52 hours. They consider a minimum of 5,000 milligram hours should be used in any case of carcinoma.

I do not wish to appear as an advocate for or against radium, but I have not operated a case of cancer of the cervix in more than three years. Our tendencies are all surgical and it is hard to get a surgeon away from the operative treatment of cancer; he likes to operate and he regards with a certain amount of suspicion anything which prevents that procedure; but I have been so thoroughly convinced of the superiority of radium over operative procedure that I have not operated for cancer of the uterine cervix in several years.

One point I wish to emphasize is that a man must acquaint himself with the gross pathology. He should not only know microscopic pathology but gross pathology, and he should be able to differentiate between the various lesions before resorting to operation. How many cases come to you each year of mastitis, which you might say are cancer. But if you know your gross pathology you will recognize the difference and save the woman a useless operation. On the other hand, it is just as vital to be able to recognize the fact that a tumor is malignant, and govern your subsequent procedure accordingly.

Dr. John Darrington (Yazoo City): These have been excellent papers. I have never heard a better discussion of this subject.

It has always been true in medicine that the way to find a good remedy for an ailment is first to find the cause. That is the great stumbling block today—we do not know the cause of cancer and naturally we are working more or less in the dark. I believe when we consider the number of men, scientific men, laboratory and research workers, who are devoting their time to this subject, that we may hope that the time is not far distant when this problem will be solved. Cancer we regard as the greatest unsolved problem in medicine, not only the condition which carries with it the highest mortality rate, but when a man dies of heart disease he dies just once; but when he dies of cancer he dies a thousand deaths. The mental effect is so bad—just say "cancer" and the patient immediately loses hope, and when you take hope from a man he is in bad shape.

I am not going into a discussion of the merits of the various treatments—that has been thor-

oughly covered and I think we have a pretty clear idea of what we are accomplishing by our present methods; but I do say they are not sufficient to meet the requirements of these cases.

Radium is a vague and mysterious force—a remedy that benefits many cancer cases, but unfortunately cures very few. I hope the future generations will be spared this disease which is so terrible, and I want again to express my appreciation of these papers which have presented the subjects so clearly and have given us such valuable information.

Dr. J. S. Ullman (closing): I want to take this opportunity to thank the gentlemen for their discussion of my paper. A number of points were brought up, but in my paper I stated that I was speaking of the treatment of cancer of the cervix and uterus. The problem of treating cancer of the fundus is quite different from that of cancer of the cervix. Fortunately for us, cancer of the fundus is rather less frequent in occurrence than cancer of the cervix, but I feel that malignant disease of the fundus is much more amenable to surgery than it is to radium. A great many good surgeons today are using radium before the operation, as a means of prevention and as an agent which tends to make the operation more safe. Deaver inserts radium into the body of the uterus for about 1200 milligram hours, and then does a hysterectomy four weeks later. Lynch of San Francisco does practically the same thing, but does his hysterectomy in ten days. But in cancer of the cervix we all know that surgery has a much higher mortality rate than where the disease is confined to the fundus and you can do a hysterectomy; as I stated this morning, if you get your patient early enough she can be relieved.

Now as to what we call "cure," most writers on the subject today are trying to get the terminology standardized. One man speaks of a cure as soon as he relieves the symptoms; another man goes to the other extreme and says we must not consider a cure until the patient has been symptom-free and well for ten years. I think the rank and file of the profession today is of the opinion that five years symptom-free may be regarded as a cure. But from the patient's standpoint if you have relieved her pain and healed an ulcerated cervix, and if she takes on weight and strength and is able to resume her duties for six months or a year you certainly have accomplished something worth while.

As to the dosage and whether you shall needle or use the capsule inside of the uterus, that is a matter for the individual radium therapist to decide. Each man has worked out his own technique. If we start a discussion as to the details

of the therapy there is no telling where it would end.

Dr. J. P. Wall (closing): As to when a patient is cured, we do not know; but the man or woman who takes treatment and is able to get around without symptoms is better than the one who has symptoms.

I did not say anything about the technique of application; I did not want to bring that into the discussion. As Dr. Ullman said, that is a thing for each man to work out for himself; but I do know that if you apply radium you will get better results. If you will take the statistics of the different hospitals you will see that. In the Pennsylvania General Hospital last fall Dr. Norris showed a series of cases that had undergone radical operative surgery for cancer of the uterus, showing a certain mortality and morbidity. Then he showed a series of cases treated by radium less than three and a half years, and not a single one operated, and the morbidity and the mortality were less. When you relieve discharge and hemorrhage and pain and make the woman more comfortable, you have done a good deal.

Dr. W. H. Anderson (closing): I am glad to see that we are so near together on this subject.

Dr. Crisler does not agree with me; but in the case of idiopathic hemorrhage in young girls we have to do something, and if we can use radium for a few hours and relieve the patient it seems to me it is common sense to do it.

As to the matter of using the needles or the tube, theoretically I believe operating scatters these cells and they get into the circulation, and we should be careful about disturbing those cells until the circulation is cut off. So in some cases it is advisable simply to lay the radium against the cervix rather than to dilate to be able to place it in the cervical canal.

One man spoke about massive doses. Two or three years ago the X-ray men were carried away with the large dose and deep therapy. They found they cured a good many cancers, but nearly all the patients died. I notice the more radium a man has the more he advocates using. I have 50 milligrams, and almost any ordinary work can be done with that amount.

Another important point is to decide whether you are going to operate or use radium. The reason is that the patient cannot stand too many knockouts. In the majority of cases you should either use radium or surgery and in this way conserve the resistance of your patient.

Dr. W. W. Crawford (closing): Referring to Dr. Bryan's discussion, I did not say in my paper that we should have annual examinations of all the people which would take up all the time of all the doctors. You will notice that I said periodic examinations. Periodic examinations are being advocated all over the country, and when we approach the point where we make periodic examinations it means that we are approaching the time when we will reduce our cancer mortality 50 per cent.' as Dr. Bloodgood says. The purport of my paper was to bring to each one of you present the responsibility you should have in your community to help let the general public understand that there is a chance for them to escape advanced cancer if they come to the doctor early and get the proper attention.

I do not think I am enthusiastic about anything, but I want emphatically to subscribe to what Dr. Wall has just said and what has been said by others on this floor with reference to the efficacy of radium in cancer of the cervix. That is one place in which radium is outstanding. Of course you can cure skin cancers with radium, but in cancer of the cervix we know we have an appalling recurrence; also a great many cases come to us when they are entirely beyond surgery, and in those cases as well as the early cases radium yields wonderful results. This is the experience of Dr. Clark of Philadelphia, who has done a great deal of original work in this line, and it is the experience of the larger radium clinics all over the world. We are not bringing you anything new, but we want to emphasize these things, because all of you are seeing cancer of the cervix every year.

In regard to Dr. Anderson's use of radium for hemorrhages in young girls, I say it is the outstanding treatment for conditions of that kind, and it can do the girl absolutely no harm. I have used it on young girls from twelve on up, and since I have been using radium in these cases I have quit worrying about the secondary anemias that come to you because of the fact that they have continued to menstruate—some of them practically all their lives. It is only a question of knowing how much should be administered. A small dose that regulates and reduces the quantity is all that is necessary, and when you have developed your technique along that line you can approach this problem with the same exactitude that you treat malaria and problems of that kind.

BREAST ABSCESS.*

WALTER EDMOND LEVY, M. D.,

[*From the Department of Obstetrics, Touro Infirmary.*]

NEW ORLEANS.

The breasts abscess of lactation, in recent years, has come to be a rather infrequent complication. This is true, due to the excellent post-partial care that the parturient receives in the modern obstetrical hospital. Prophylaxis is the keynote of success in dealing with this complication.

So important are these prophylactic measures, that I feel it is not amiss to bring before you the outline of this particular therapy along with what may be a few original ideas.

Before proceeding with this, however, I should like to recapitulate a few well known and established facts. In the first place, let us consider the anatomy of the female breast. The virginal breast is almost hemispherical, and non-pendulous. The nipples are located about the level of the fifth costal interspace. The gland proper is composed of some 10-18 lobes; these radiate from a common centre, the nipple. According to Deaver, the glandular tissue of each lobe, consists of a system branching and ramifying dendritic tubules. The many acini, resting in the gland loculi, give off small ducts which unite ultimately at the ampulla. From the ampulla, a single duct leads to the nipple.

The second point is, that pregnancy causes a great activity of the breast tissue. The breasts become much larger, and as a result, become more pendulous. The blood supply is also greatly increased.

The third point is, that the very enlargement, hypermania, etc., are in themselves predisposing causes for an inflammatory reaction. Add to these, the complication of

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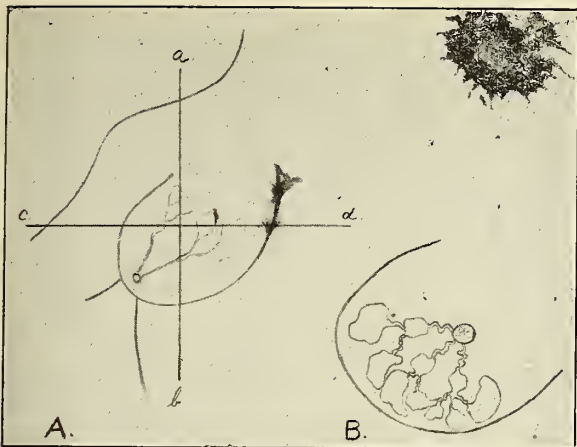


Fig. 1. A—The normal position of the nipple is at the point of intersection of lines a-b and c-d. The breast here has gravitated to the axilla and as a result, the milk ducts are put on tension and narrowed. B. Under surface of same breast. Here the ducts are thrown into convolutions.

cracked or fissured nipples, plus the ever-present bacteria, and it is rather easy to see how simple it is for infection to result. According to Deaver, two theories have been offered to explain the mode of entrance of the organisms; the one, that the bacteria enter the milk ducts, the other, that they enter the superficial lymphatics. He adds, however, the fact that primary lymphangitis is almost invariably associated with a cracked or fissured nipple.

Bearing these few facts in mind, let us now consider the various measures more in detail.

Prophylaxis: The proper care of the nipples and breasts is, as mentioned before, the best preventive of breast abscess. But right here let me pause a moment to make this statement: I am absolutely opposed to any massage or application of medication to the nipples or breasts by the patient before confinement.

Nipples: Cleanliness is here the sheet anchor of success. The nipples at all times should be covered and protected with clean dressings. Before each nursing they should be carefully cleansed with boric acid solution, followed by sterile water. After each nursing, the nipple should be washed with a 70% alcohol solution and then sterile water, and the dressings reapplied.

Fissured or cracked nipples should be treated immediately, for it is through these that the infecting organisms gain their entrance into the lymphatics. Personally, in case of minor fissures, I make use of an ointment of 5% recorsin in lanolin. If the nipples are badly cracked, even unto bleeding, they must be cauterized. In this latter instance, I employ a 25% silver nitrate solution followed by normal salt solution to care of the excess, or I use a 33 1/3% acetic acid, followed by a saturated solution of sodium bicarbonate. In either instance, I then recommend a nipple shield until complete healing has taken place.

Breast: The breast proper must also come in for its share of attention. If the breast is allowed to become hard and tense, caked breast, as it is commonly called, there is at once created an excellent situs for infection. For here we have heat, moisture



Fig. 2. Large, pendulous breast.



Fig. 3. Strap applied. Breasts are supported, and the nipple and the area about the nipple are easily accessible.

and protein material, and this, plus the entrance of organisms through damaged nipples, is the foundation of the breast abscess of lactation.

To obviate this, the breast should be properly supported. The normal position of the nipple is at the point of intersection of the mid-clavicular line with a horizontal line drawn at the level of the fifth rib. Now the average lactating breast, becoming larger and heavier, gravitated down-illary region. This either puts the lacteal ducts on tension, narrowing their lumen, or throws them into convolutions, likewise preventing free flow of the milk. This tendency to the hanging down of the breasts must be obviated. They should be kept well lifted up from below and from the sides. As a result, the flow of the milk is much easier, and the venous congestion is greatly relieved.

At this point, it is the common custom of the vast majority of practitioners to apply a breast binder. On the maternity division at the Touro Infirmary, the use of the breast binder has been discontinued, and broad adhesive straps are used to support and maintain the breasts in the proper position. The chief objections to the old-fashioned breast binder are, firstly, it is a make-shift at best, and does not firmly fix the breasts in the desired position; secondly, with each nursing, it must be loosened and the breasts instantly drop back into the undesired position; thirdly, it is impossible to properly medicate the nipples, if necessary. Now with the adhesive straps, which were first suggested to me some years ago by Jellinghaus, all these objections can be overcome with ease. The breasts are permanently fixed, and as the nipples, and the area about the nipples are exposed, the baby can nurse on either breast without disturbing the supporters. Likewise, applications can be made to the nipples whenever desired.

If the breasts have become engorged and caked, however, I never make use of massage, topical applications, *lotio plumbi*, *belladonna*, or a breast pump. These measures are either more harmful than beneficial, or are worse than useless. A breast pump rather promotes the secretion of milk, thus in itself defeating the purpose of the treatment. The best line of therapy for the above condition is the application of the aforementioned adhesive straps, ice-caps to the breast, and a restriction of fluid intake, and a brisk saline purge. In the average case, after such a routine, the condition has usually subsided within twenty-four hours. This latter plan of treatment can also be used to prevent lactation in the event of still-birth, or to dry up the breasts in the event of the death of the baby after lactation has set in.

Once the abscess has formed, the treatment is essentially surgical, viz: incision and drainage, and not aspiration. The

operation of Shield, or a modification thereof, is the one choice. A radical incision is made either under local or gas anesthesia. The incision should be large enough to admit the gloved finger into the cavity, where a thorough, but gentle exploration should be made. The vast majority of breast abscesses are multilocular, and the septa must be cautiously broken through. Care must be taken, however, not to break down the natural barriers of defense at the circumference of the abscess.

Fenestrated rubber drain tubes are then introduced into the cavity, and if the true Shield operation has been done, one tube is brought out through a dependent stab wound at the mammary-costal junction. It is my custom, now to flush out the cavity through the tubes, twice daily with Dichloramine-T, of course protecting the surrounding skin. Once a day, the tubes are removed, cleaned, resterilized, and re-inserted. Use is never made of a gauze drain, as I am thoroughly convinced that after several hours, when the pus, blood, and serum has dried on it, it acts as a plug, rather than as a drain.

As a result of this treatment, a breast abscess can be cleared up with more rapidity than is usual. The average duration of a case treated along these lines is about ten days, as compared to one of three to four weeks otherwise. Furthermore, as the result of this rapid recovery, the breast is more quickly returned to its lactating duty, and has a normal usefulness for the rest of the nursing period.

In closing, I should like to emphasize the following:

Breast abscess is a very infrequent complication of pregnancy at present on well regulated obstetrical divisions. The prophylactic treatment is so well perfected, that the occurrence of such a complication may well be considered a blot on the professional escutcheon of the attendant.

Should such a complication occur, however, the rational treatment is incision and drainage, much after the fashion described.

DISCUSSION.

Dr. F. W. Parham (New Orleans): I have not had much to do with this subject and practice for a good many years, but at one time I did have a considerable amount of experience in treating abscess of the breast. I want to emphasize the fact that the essential thing is to support the breast. The picture which Dr. Levy showed with strips of adhesive going around, illustrates an excellent method, but it seems to me this would be very much better if, in addition, there were strips going up to the shoulder, so as to elevate more. Many years ago I was impressed by the bandage devised by Dr. Dulles of Philadelphia. He devised a routine systematic way of putting the bandage on. The first turn started from the axilla, passed up under the breast to the opposite shoulder, thence across the back again to the same axilla, thence forward above the breast cross the front to opposite axilla, thence across back to the starting point, when the first turn was repeated, each time drawing the breast up. A few figure of eights around



Fig. 4. Lateral view, showing how breasts are being supported straight out of the chest wall, even though the patient is in the upright position.

the breast completed a very effective compressing bandage.

This served a useful purpose: (1) It compressed the breast out toward the nipple, acting to empty the breast of stagnant milk.

Of course, after the breast has formed an abscess, treatment is difficult. You do not wish to let the baby continue to nurse. Therefore the whole attention is directed to stopping the supuration as soon as possible. In doing that I believe hot compresses of boric solution put on hot and a bandage put on in a systematic manner, as described, will accomplish more in an abscess of the breast than any other plan.

It is good to have these old subjects brought up before us again.

WHO IS INSANE?*

J. M. BUCHANAN, M. D.,

MERIDIAN, MISS.

Should one go into a ward of an insane hospital, and ask almost any patient, not a dement, if he is insane, the answer probably will be no, and to prove his alibi, as it were, he will add that he is all right, but was sent there to get rid of him at home, or that those who sent him to the asylum ought to be there themselves. This is particularly true of those suffering from delusions and obsessions, but will not apply to those with anxiety psychoses, for, while they will deny that they are insane, they fear they may become insane if confined in the hospital. At the same time, if asked in regard to other inmates, they will readily admit that they are insane. So it is always you, and not I, reminding one of the old Quaker famous for saying, "Every body is queer but me and thee, and sometimes thee is a little queer."

I do not mean to say that every one is insane, but there are many suffering from an imbalance, who are not at all times able properly to adjust themselves to certain conditions, and environment, making them

appear a little queer; all of us have hobbies, and we are by nature temperamental.

It may be of interest to you to know that psychiatrists now have more than 80 classifications and subdivisions of mental diseases, and when one is subjected to examinations by alienists, psychiatrists, psychologists, and psychoanalysts, they go back to early childhood, scrutinizing every trait of character, every thought and action of his conscious life; the psychoanalyst not being satisfied with his conscious self, dips into the subconscious, and essays to interpret the patient's dreams, giving significance to every sign and symbol, usually referring them to the sex instinct. When it comes to interpreting dreams, Joseph and Daniel are not in the same class with the modern psychoanalyst.

If one runs the gamut of these examinations, he is fortunate indeed if one of these 80 subdivisions does not fit his case.

LARGE NUMBER OF MENTAL DEFECTIVES.

It is now an old story, but the examinations of entrants in the late war revealed an alarming proportion of mental defectives in the country. Thirty per cent of those examined were declared to be unfit for military service, five percent of these were rejected on account of mental deficiencies. Those examined were young men, the flower of the country, and if such examinations were made of the whole population, men, women and children, no doubt the percentage of mental inferiority would be much greater. The largest number of those rejected on account of mental deficiency were feeble-minded, and only the high grade or moron type were examined, as idiots and imbeciles were not drafted. Many of these morons were living quietly at home, and were able to adjust themselves to their environment in civil life, but under the strain of military regimen they weakened, and had to be sent home.

The next important class was the schizophrénias, the dementia praecox group, in-

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

cluding the subdivisions. Some of these were not recognized at first examination, and were accepted, but they soon developed psychoses, and were later discharged.

By far the most troublesome were the border liners, including the mild manic depressive psychoses, the neuroses, the psychoneuroses, the hysterical, the neurasthenics, the epileptics, the hypochondriacs, and the pscopathics with constitutional inferiority.

There will always be mental defectives in the population of every state; many of these become sociological problems, demanding segregation for the protection of society. To this end, most states have made some provision for the care of a limited number of idiots and imbeciles, with some education and industrial training for morons, and permanent segregation of certain types of defectives, who are dangrous and have sex tendencies. As a rule, the equipment of such institutions is meager.

In Mississippi while the Legislature made ample, indeed lavish, appropriations for the insane, when it came to the colony for the feeble-minded, the members of the Legislature became positively parsimonious. A mental survey made of Mississippi in 1919 by Dr. Haines revealed the fact that defective people were found in the penitentiary, in jails, and poor houses, and feeble-minded children were found in the orphanages, public institutions, poor houses, private homes, public schools and insane asylums, several thousand in all; yet in 1926, it was hard to get a small appropriation for a cottage for feeble-minded girls. Dr. Ramsay has been trying to take care of about 200 of the thousands in the state, and is doing good work with his limited equipment. Are we upholding his hands in this great work?

It was not a bad idea when it was suggested to build one great insane hospital with colonies on the Rankin farm, and make the Meridian asylum a training school for defective children, and a home for in-

curables. I care not so much for the adult feeble-minded, for nothing can be done for these, except custodial care, but I am intensely interested in defective children, for with these much real good can be accomplished. Dr. White of St. Elizabeth's hospital has said that youth is the golden period for mental hygiene, and the school is the place where this work should begin. Surveys in eastern states show defective children in all schools, and ours are no exceptions. These children are expected to adjust themselves to the work of the school, and try to take the regular curriculum, which is impossible. Not being able to carry on, they leave school and from neglect, become in a few years delinquents. Are we doing our duty and is it right for us to give millions for schools to educate the normal child and do practically nothing for the backward or abnormal child?

The time allotted to this paper does not permit giving a mental hygiene program for schools, so I must be brief.

As a starter in school hygiene, every child should be examined by a psychiatrist, either a physician, or a trained psychiatric worker, and all children found to be backward, or defective, should be put in special classes, and taught only such things as would come within their mental grasp. Mental hygiene should apply to all pupils, taking into consideration, heredity, personal traits, degree of intelligence, eccentricities, special disabilities, environment and home care. This of course would be expensive, but if these children are neglected, we shall pay in the end. In truth, it is a question whether we shall pay in a way directed toward the control and prevention of delinquency, or whether we shall pay in crime, in courts, in reformatories, in prisons, in almshouses and insane hospitals.

There is no panacea for feeble-mindedness, but much of the incidence of mental defect can be reduced by education and training and improving the home environment. Much more can be accomplished by preventing the unfit from marrying and repro-

ducing defective offspring. As a means for carrying out this idea, segregation and sterilization of the unfit is advocated, and some states have laws authorizing the sterilization of certain classes, but sympathy and prejudice have been too strong for the operation to become universal at this time. Eugenic marriages would be beneficial, if the law was universal, but if one state requires an examination, there is no law to prevent a couple going to another state where there is no restrictions. Valpariso, Ind., has become a Gretna Green for bordering states with eugenic laws—fourteen couples from Chicago were recently married there in one day.

Segregation calls for an outlay of money that no state could afford, to confine all of its defectives, but that is not necessary, for it has been shown that morons who have been trained, can live outside a colony without danger, and it is only necessary to confine the dangerous on account of vicious tendencies.

Feeble-mindedness is hereditary, and there is now an imbalance between the birth rate of the feeble-minded and normal people. Feeble-minded women are very prolific, and as they do not realize the sin of bringing into the world defective offspring, they make no effort to prevent conception, while those who should have children control their birth rate.

The class we termed borderliners demand more serious consideration in the regulation and control of this large class of defectives, for many of these are able to adjust themselves to society and give no serious trouble. Their deviation from normal may not justify hospital care, and after reaching adult life nothing else can be done for them. Both segregation and sterilization would be impractical, and aside from an occasional loss of self control when some violent act may be committed, they are harmless, but may be troublesome to neighbors.

The advisability of total elimination of all who are mentally abnormal has been

questioned by some authorities on these matters. It is claimed that we would lose much of the genius of the world, genius and insanity being close akin, for, as Ouida said:

"People of great genius are always
a little mad."

And Dryden declared that

"Great wit to madness is allied,
And thin partitions do their bounds divide."

Others have said that when suffering from delirium, or mental disturbance the mind takes higher and loftier flights of imagination, so the world would lose much of its brilliancy, wit and humor, as well as constructive ability in the sciences, arts, literature and state-craft. Sir Arthur Keith, anthropologist, in an interview, stated that "in the distant future, man would not be a superintellectual creature, but a person of robust physical constitution with much of the animal about him. Moreover, if everybody became hyperintellectual the race would perish." It was the animal instinct which had kept the genus homo on earth."

Yet what would the world gain by a robust physical constitution without some superintellectuality and genius. The biblical account of the first inhabitants of the world gives us such a physical man, when men lived hundreds of years. The biography of the oldest man says Methuselah lived 969 years and begat sons and daughters. Such longevity is not necessary or desired at this time. This is a day of activity where men accomplish much in fewer years. Who would give a life of four score and ten years like that of Wilson, Edison or Gorgas,—men who did things other than beget sons and daughters, for a thousand years like those of Methuselah.

LEGAL CONCEPTION OF INSANE.

The question of who is insane sometimes becomes a problem for courts, either in criminal cases or in a testamentary capacity.

The number of insane people found in penitentiaries and other penal institutions does not speak well for court findings in criminal cases. In fact, the proceedings in criminal cases are all wrong. There is no more reason why a man outside, who is insane, should be tried for a homicide, than an insane man in an asylum who has committed a similar offense. In all such cases, where the plea of insanity is set up as a defense, a commission composed of physicians qualified as experts should examine the man, and if he is pronounced insane, this commission should make their report to the court and that should settle the matter as far as criminal proceedings are concerned.

As it stands today, the unfortunate man is brought into court and tried by a "legal incompetent jury," men who know no more about mental diseases, than they do about typhoid fever or any other physical ailment. Very often so-called experts are summoned on both sides, and as these doctors may differ that only leads to more confusion. A commission would do away with this confusion.

The legal conception of insanity differs from the medical view. Usually the opinion of the court is based on what is termed the right and wrong test: That is, if it can be shown that at the time the homicide was committed the party had enough mind to know right from wrong and appreciated the fact of the punishment likely to follow, he should be punished. Medical men regard the trouble as a mental disease. He may know right from wrong and still be insane. While he may know he is doing wrong he lacks the will power to restrain his imperative impulses. If a knowledge of right from wrong is a test for sanity, then many of the inmates of insane hospitals should be set at liberty, for many of these know the difference, and appreciate rewards and punishment.

Let me illustrate these proceedings by a case in which I testified in court last year.

The father of a boy about 21 years brought him to my office for examination. Dr. T. G. Cleveland was with me in making the examination. He gave the history of being in habit taking things, some of little value, and no service to him, usually he threw these things away or gave them to some one. Finally he robbed a country store after making plans for the robbery and disposition of the loot, and for this he was arrested and placed in jail. He made false keys and escaped, and it was while at liberty that his father brought him to me for examination. He gave a history of having been acting in a peculiar manner for some time; he had worked at odd times but could not hold a job and loafed, rambling about the country, was sullen and suspicious. We agreed that it was a case of *praecox*, that kind of *dementia praecox*, with suspicious, keen intellect and cunning, just such as make counterfeiters, automobile thieves and burglars. He was totally unconscious of his moral obliquity, and when I asked him if he did not know that robbery was a crime and he would be punished, he said "Yes, if you get caught." The father thought the boy was insane and tried to put him in the insane hospital, but *habeas corpus* proceedings failed, and the boy was put on trial. I was a witness in the case, but sentiment was so strong against him that I realized he had but little chance. The whole matter seemed to hinge on the question if he knew right from wrong. I admitted that he did but that he was unquestionably insane, lacking will power to restrain his impulsive acts. As an evidence of his sanity great stress was put on the fact that he had planned the robbery to a nicety, and that he had sense enough to make false keys to make his escape. For the defense I was asked if insane people cannot do these things. I told that in insane hospitals some are always planning to escape, and I had a man who was so expert at making keys that we had to put Yale locks on all the outside doors. As was expected, he was convicted, and the learned judge in passing sentence said: "I

could commit you to the insane asylum, but you are just a black sheep in a good family, and I am going to send you to the pen for one year." I wonder if that unfortunate boy was the only one in that court who was a little queer. Possibly the judge thought one year in prison would reform him. His father did not believe it, and he realizes that when the boy is released from prison his troubles will begin again.

Trials like the above indicate that we have made but little progress since the dark ages when they tied the insane to pillars in dungeons and beat the devil out of them, as the insane were supposed to be possessed of devils.

Insane people are not only sent to prisons, but are often hanged. Several years ago Dr. L. Vernon Briggs, of Massachusetts, wrote a very interesting paper on this subject, and I am making some extracts from that paper. He says that at one time in our history animals in the service of man could be arrested, indicted and tried like any other member of the household. In 1314 a bull belonging to a farmer escaped into the highway, where he attacked a man and injured him so that he died a few hours later. The ferocious animal was seized and imprisoned, and after being tried, was convicted and sentenced to be hanged, and the execution took place on the common gallows. In 1389 a horse was condemned to death for homicide, and as late as 1697 a mare was burned by the decision of the Parliament of Aix.

Now when we execute a non-compos or insane man, have we advanced much beyond the custom of seven hundred years ago when they executed animals legally for crime?

Punishment is inflicted as a deterrent to others, and should not be governed by the old Mosaic law, "an eye for an eye," but if the execution of an ox for goring will prevent other oxen from pushing with their horns, or if the hanging of an insane man

will prevent other insane men from committing homicide, then let us return to the old Mosaic law. The execution of the animal is just as logical as the hanging of an insane man. Courts are not always to blame, for we have had instances where society demanded execution of insane men, and there must be a change in sentiment before these cruelties can be corrected.

DISCUSSION.

Dr. J. H. Fox (Jackson): Dr. Buchanan's saying that it is always the other fellow that is insane, reminds me of a patient who was under the care of dear old Doctor Mitchell, for so many years superintendent of the State Hospital for the Insane at Jackson. He had a patient who had been committed there as the result of crime—he had killed his brother-in-law. This man was a man of prominence, he had once held a position in the county, and Dr. Ward, who was a friend of the family, visiting the hospital one day, stopped to talk to this man. He came down to the office and said to Dr. Mitchell, "Don't you know, that man ought to be set free—he is not insane." Dr. Mitchell said, "Well, we may have been mistaken, but suppose you go back and ask him why he killed that man." So Dr. Ward went back and said to him, "Why did you kill your brother-in-law?" "The Lord told me to kill him." "Well, if the Lord would tell you to kill me, would you do it?" "Yes, Dr. Ward, as much as I love you, if the Lord told me to kill you I would have to do it." And Dr. Ward came back to the office and said, "That is the craziest man I have ever seen."

The definition of insanity is something that has bothered doctors and lawyers and alienists for years, and the true definition is the old one. The student of psychiatry has not failed to observe the gradual evolution of the interpretation of that aggregate of psychical phenomena which we have come to recognize as insanity. We have been accustomed to class all mental disturbances under the term "insanity." In the early ages of insanity, observed and described purely in its psychical aspect, was looked upon as punishment inflicted because of the anger of the gods.

Dr. Buchanan touched on a subject that has been near my heart for a number of years, and that is the feeble-minded child. I think Mississippi has made very rapid progress in that she has established an institution for the care of the feeble-minded, but I do think that the Legislature is not awake to the enormity of this feeble-

mined question. There is hardly a month in the year that some poor mother is not placed in a position where she is unable to find a place to take care of this unfortunate member of her family, and with the small institution that we have at Ellisville we are only making a small beginning in caring for the feeble-minded of this State. I trust every doctor of the State will take this to heart and try to exert his influence with the Legislature. It would be a humane thing if every member of this Association would in the future try to impress upon the members of the Legislature from their respective districts that an increased appropriation is necessary to take care of these unfortunate children.

SKULL FRACTURES.*

C. P. GRAY, M. D.,
MONROE, LA.

In presenting this paper on skull fractures it is not the aim or intention of the writer to bring forth, or advocate any new, or radical measures or opinions dealing therewith, nor am I making any attempt to discuss the causes and mode of action of the causes of skull fractures and shall only mention the location of one fracture in passing. But I do hope to call to your attention and impress upon your minds the application of some of the sound principles of surgery that are so beneficial in any condition associated with the symptoms resulting from a severe trauma, as is so often the case in skull fracture. I would also call your attention to the fact that the term skull fracture really does not carry with it the meaning it should, and in no way defines the condition present in the majority of cases of so-called skull fracture. I agree with Maclaire of New York when he says, "The term fractured skull no longer conveys the true significance of the injury in that no provision has been made for the possible associated trauma of the intracranial contents. To employ the term acute brain injuries also bears the same objectionable defect in clarifying the pic-

ture by omitting the state of the calvarium. Thus, it appears to me that the term cranio-cerebral not only is descriptive but also covers every contingency possible in head injuries." And again, do I agree with Percival Pott when he so aptly states, "The reason for applying the trepan springs from the nature of the mischief which the parts within the cranium have sustained, and not from the accidental division of bone." Malgaigne similarly expresses himself. So, then, I am using the term skull fracture for want of a better term and at the same time trying to bring before us again that it is not the fracture which so much calls for attention as it is the underlying tissue.

One reason for bringing this subject before us at this time is the large increase in the numbers of these cases occurring almost daily, not only in the cities and more thickly populated industrial centers, but on our public highways, due to the large number of people traveling by motor car from one section to another. No doubt many surgeons present can verify what I say when I call attention to the fact of a great number of injuries occurring from this cause within the recent past. This cause alone will continue to contribute an increasing number for so long as public highways are constructed and motor cars travel them, there will be serious wrecks.

Another reason for calling attention to this condition is the apparent lack of any concerted intelligent classification of cases from the standpoint of proper care and treatment of these patients. As one writer so nicely states, "In the past few years the tendency in the treatment of cranial trauma has been towards conservative measures rather than immediate surgical interference. The high operative mortality that resulted from rushing all serious head injuries to the hospital and performing subtemporal decompression has produced a reaction in favor of a more careful consideration of the indications for surgery in these

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cases. Hitherto concussion and continued stupor with or without localizing signs pointing to the area of the brain injured, seemed to most surgeons sufficient reason for immediate decompression. As a rule no attempt was made to try to estimate the degree or nature of the injury or to formulate any rule upon which to decide for or against operation.

An intelligent and satisfactory classification of skull fractures and associated damage is hard to make. Grant in a paper on the treatment of fractured skull classes these cases in three groups. First, those which will be fatal whatever is done; second, those in which spontaneous recovery will result; third, those in which death will occur if no treatment is given but life may be saved by proper interference. Weaver groups his cases according to the classification as outlined by Donovan as follows:

Class A: Fracture with massive brain injury with evidence of rapid exhaustion of the medullary centers and death within from one to several hours after injury.

Class B: Fracture with definite evidence of middle meningeal hemorrhage.

Class C: Simple or compound depressed fracture with localized brain contusion and with or without indriven bone fragments.

Class D: Fracture with classic manifestations of rapidly increasing intracranial pressure which are well within the period of medullary compensation.

Class E: Fracture with definite evidence of brain injury exhibiting no classic findings of acutely increasing intracranial pressure, yet of the type that experience has shown is liable to develop increased intracranial pressure as the result of the accumulation of fluid.

Class F: Fracture with so-called concussion with no evidence of gross brain damage.

Class G: Depressed fracture of a mild degree with no symptoms.

This classification is rather drawn out but in my opinion it well serves the purpose to impress upon the surgeon the various phases of pathology with which we are likely to come in contact. To this classification I would add fracture of the base of the skull merely to call attention to it and further to state that in the majority of cases it is beyond surgical relief.

When we consider a fractured skull from any of the groups just mentioned I believe we are forced to recognize that in many, many cases the personal equation of the patient is lost sight of, and that the great principles in surgery are lightly applied. For instance, in the handling of these cases the injury to the nervous system and the shock present are wholly disregarded and the patient in many cases, subjected to a decompression operation with nothing done but a routine X-ray picture made. Bearing in mind "there is no skull fracture so simple but what will cause death and none so serious but what recovery may take place" it is imperative that we be familiar with the general symptomatology in addition to an X-ray examination. In fact an X-ray picture is not wholly and entirely to be relied upon in all cases. Recently I have had several cases with fracture barely detected by X-ray examination which later showed classical symptoms of a meningeal bleeding, found to be present upon operation. With the exception of a fracture with active bleeding, such as the involvement of one of the meningeal arteries these patients should be carefully and not too hastily studied. Shock should be treated, blood-pressure readings made, cord pressure taken and repeated neurological examinations made prior to operation. Rand reports a series of 171 cases of fracture with associated brain injuries in which operation was performed in 22% with an operative mortality of 47%. Consider this with the fact that Rand is a

close observer of his cases and gives considerable attention to the pre-operative treatment.

I thoroughly agree with Maclaire again when he says, "In attempting to discuss a rational procedure for the proper treatment of acute brain and skull injuries, one is immediately confronted with the existence of many diversified methods of treatment in vogue at the present time. Whenever such a discord exists and a generalized routine measure of therapy is not adopted or accepted by the majority of the profession, it merely indicates a lack of the proper comprehension of all the pathologic phases of pathogenesis of the condition, and it is to be expected that when such a state of turmoil is present every surgeon will naturally differ not only in his therapy but also in the time of application of his measures. The therapeutic indications become a matter of individual and personal equation. Such a situation should now be obsolete, and definite laws for the treatment of craniocerebral injuries should be as well established and firm as the treatment of acute appendicitis. To elucidate what is implied above, a single illustration will suffice for our purpose here. For instance, in the treatment of acute cerebral edema some men advocate dehydration solely in one form or another; others rely only on repeated lumbar punctures, while still others resort indiscriminately to operative measures and yet another group institute practically no treatment at all except rest in bed, with an ice cap and general observation, which at times really constitutes nothing more than ignorance and criminal negligence. Yet each group can not be entirely wrong all the time. They all possess their merits, which if incorporated into one plan of treatment would produce the ideal that we are seeking. The essential policy for us is to learn what to do and when to do it, so that the patient will derive the most benefit from our treatment and will be returned to as near economically and emotionally normal as possible under

the varying circumstances of the nature of the trauma.

In dealing with a subject of this kind, the question of the degree of importance attached to skull fractures per se, aside from depressed fractures, immediately presents itself not only to the physician but also to the layman. We should all now be past that stage when the term fractured skull, except depressed fracture, looms up as a skyscraper in importance in acute traumatic craniocerebral conditions. Those of us who treat many cases of head injuries have come to realize that the patient is far more fortunate with a fractured skull, when a cerebral complication is concomitant, than without it. Very often his life is spared because of nature's method of decompression established by the fracture, and at other times surgical intervention is necessitated; the former is a natural decompression whereas the latter is an artificial one.

In conclusion:

Let us study the patient with a fractured skull more closely and arrive at a better understanding as to what to do, how to do it and the best time to do it.

Let us give more attention to the shock and disturbance to the central nervous system.

We should make more thorough and repeated neurological examinations.

We should not hurry the patient to operation except those with active bleeding such as meningeal involvement.

All skull fractures do not require operation.

A simple linear fracture with a moderate increase in intra-cranial pressure does not necessarily indicate operation interference.

A fracture with rapid increase of intra-cranial pressure demands attention either by de-hydration or operation, next in importance to those accompanied by hemorrhage.

A PLEA FOR THE ADMINISTRATION OF PROPHYLACTIC MEASURES.*

GILRUTH DARRINGTON, M. D.,

VICKSBURG, MISS.

It is not the purpose of this paper, nor do I entertain any hope of teaching the members of this learned body anything that they do not already know. I merely want to list the various prophylactic measures that we have at our command, and urge that the general practitioner insist that his patient receives them. The old proverb that an ounce of prevention is worth a pound of cure is absolutely true. We have many measures that are almost positive as preventives of disease, where, if the disease once develops, we are helpless to cure.

The responsibility of the practitioner begins before the birth of the child, and continues until he passes to the great beyond. The doctor owes it to the mother and the child before its birth to insist on regular examination of the blood pressure and urine of the mother, prescribing such medications and diets as the case may warrant.

Following birth of the child, the first prophylactic measure that should be used routinely is the instillation of 1% silver nitrate in the baby's eyes, as a preventive to gonorrhea neonatorum, and of course ample sterilization of the umbilical cord.

As the child grows older I think the following measures should be adopted at such time, as the doctor may deem advisable and appropriate:

1. Smallpox vaccination.
2. Diphtheria toxin-antitoxin (provided the Schick test is positive).
3. Scarlet fever vaccine.
4. Typhoid vaccine.

The technique and time for smallpox vaccination is so universally familiar that it is not in the scope of this paper to go into details, as to its administration. The question of length of time that immunity lasts is more debatable and often arises for us to answer.

The immunity produced by vaccination varies somewhat with the individual. There may be a few individuals who are naturally immune, but these are rare and cannot be taken into account considering the question of smallpox from a public health standpoint. Vaccination done in infancy will confer permanent immunity in a certain number of individuals, but in others the immunity becomes weaker as time goes on so that in later life these individuals may take smallpox, if exposed to it. If they do take the disease it will be lighter and the mortality much less. There is no way at the present time to tell whether the immunity has worn off except by a repetition of the vaccination. Individuals who have been vaccinated at intervals until the vaccination done with active virus no longer takes, can feel perfectly sure of their immunity. This has been thoroughly demonstrated in cases of physicians and others who may be constantly exposed to the disease.

The question of vaccination after the person has been exposed to smallpox, has always been a matter of considerable interest. Hanna, from a study of the subject, concludes that vaccination done subsequently to infection with smallpox, will take up to the date of the onset. That the individual is afforded protection from smallpox when the vaccination is done within three (it might be safer to say two days) after infection takes place. If the individual is vaccinated for the first time during this period, it may not afford protection, but the case will be a light one. He believes that the disease is mitigated, even if the vaccination is done up to the onset, and possibly even later. Up to the onset of

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the disease the vaccination runs an independent course. After the onset of the disease, the vaccination is as a rule unsuccessful.

The control and treatment of diphtheria is one of the greatest achievements of modern medicine; however, the improvement in treatment is out of proportion to the improvement in the control. The death rate from diphtheria is not over 17% of what it was thirty years ago; while the number of cases is not reduced to less than $\frac{2}{3}$ of what it was. There is no reason for this if the medical profession will familiarize itself with the Schick test, and the immunizing by toxin-antitoxin, if the Schick test indicates it.

The Schick test is simply a test to tell whether a person has or has not enough diphtheria antitoxin in his system to make him susceptible to diphtheria. It consists of giving $\frac{1}{50}$ of the amount of diphtheria toxin necessary to kill a 250 gram guinea pig; this toxin is given in $\frac{1}{10}$ cc. of salt solution. It is usually given as an intradermal injection on the flexor surface of the forearm, just below the bend of the elbow. The needle should pass between the layers of the skin, just deep enough to cover the opening and so superficially that you can see the needle. The sign of a correct administration of the injection is a small raised whitish area, about $\frac{5}{16}$ inch in diameter which develops and remains for some minutes; when this develops we know that we have the right technique. Because of the fact that sometimes a pseudo-reaction develops from the protein, it is advisable to use a control on the other arm of an equal amount, using a slightly larger amount of the heated toxin. The test is interpreted on the fourth day.

If there is a well marked redness at the sight of the injection it is called positive, indicating that the individual has a lack of diphtheria antitoxin and is susceptible to diphtheria. Faint redness indicates less susceptibility and no redness indicates ab-

sence of susceptibility, or immunity. The value of this test is two-fold in that it gives a sense of security to those who have a negative reaction, and second it prevents the unnecessary use of the immunizing agents.

However, if the patient has a positive Schick reaction, he should receive the immunizing dose of toxin-antitoxin, which is very simple, consisting of the subcutaneous injections of 1 cc. of the toxin-antitoxin mixture given at weekly intervals for 3 injections. Each cc. of this mixture contains $\frac{1}{10}$ L plus doses of the toxin, with a sufficient amount of antitoxin to completely neutralize it. The L plus or lethal dose means the amount of toxin that will kill a 250 gram guinea pig. It will be noted that the dose is not increased weekly but is the same for all the injections. This will give active immunization to those having positive Schick test in 80% of the cases in three months, 50% of those who did not develop immunity will do so in one year; the remainder should get a second series and all these will get an immunity. However, we will occasionally find some who will resist even two series. The patient will retain this immunity for at least six years. It is best to give this near the end of the first year, because here it is needed most and creates the least disturbance. If this becomes the general practice diphtheria will soon be a rare disease.

The Dick test, which is very similar in principle to the Schick test, is an important means for the selection of susceptible individuals to scarlet fever. It consists of giving $\frac{1}{10}$ cc. of scarlatinal streptococcal toxin intradermally, with the control on the other arm, as in the Schick test for diphtheria. This preparation is put up already mixed by the leading drug houses. The test can be interpreted in from 12 to 36 hours, and a positive reaction is indicated by an area of redness around the sight of the injection, and a negative re-

action by there being no evidence of any inflammation, the skin remaining pale.

We will first take up persons who are exposed to scarlet fever, where the danger is imminent. These cases should first receive the Dick test as it can be interpreted in 12 hours. In the event the Dick test is positive the patient should receive 10 cc. of the scarlatinal antitoxin serum. This gives what is known as a passive immunity, lasting only a few months but is produced immediately.

In cases that have a positive Dick test where the danger is not imminent, and exposure not immediate, then the active immunization method is advocated and advised. This consists of four doses of anti-streptococcal toxin given subcutaneously at intervals of from 7 to 10 days. 1 cc. of the preparation is given for each injection, but the strength of the solution increases with each dose. The first dose consisting of 250 skin test doses, the second 500 skin test doses, the third 1000 skin test doses, and the fourth 2000. The amount doubling with each dose. The individual is slower in acquiring this immunity, usually requiring several months; however, it seems to be permanent.

Typhoid vaccination is also very familiar and statistics show that while not absolutely infallible, it is nearly so. Locations where, previous to its advent, typhoid fever was so prevalent that one's life was constantly in danger from it, have been rendered practically free of this disease. Its administration is very simple; the three increasing doses at weekly intervals of the dead typhoid organisms produce an active immunity in the individual's body, lasting at least two years and as long as seven.

Besides these routine measures, of course, any injury where there is any possibility of tetanus developing, should receive the prophylactic dose of 1500 units of antitetanic serum. Realizing the danger of an anaphylactic reaction, should the patient have had serum at any previous date; this should be

inquired into, and should the case give a history of having received serum at any time in the last few years, you should proceed with great caution, due to the fact that a previous dose of serum makes one especially susceptible to anaphylaxis. In cases with this history, it is always best to inject only a few drops and wait to see if any alarming symptoms develop. If nothing occurs within 10 to 20 minutes, it is safe to give the balance of the dose.

The last of our means is administration of the Pasteur treatment, in the event a patient is bitten by an animal suspected of having rabies. In this connection let me point out the advisability of shutting the animal up and observing it, rather than killing it, and having its brain examined for the characteristic negri bodies. There is always chance for laboratory error in this case, where, if the animal is confined and watched, there is no chance for error. If he has rabies he will die in a week; they all will. Where, if he is living and well at the end of a week, you may rest assured that he is not mad. A week allows ample time for the commencement of the treatment, which any doctor can give. It consists of 16 daily doses as put up by the various drug houses, or the 21 daily doses of the preparation which is furnished free of charge by the state board of health. The simplicity of both the test and the treatment for rabies should encourage every doctor to handle his own case and not pass the buck by sending his patients off for someone else to treat.

While this is elementary and thoroughly familiar to every man present, I am only mentioning these facts to refresh your memory on these valuable means for preventing what has heretofore been regarded as very serious and very dangerous diseases. A more universal adoption of these remedies would result in great benefit to the people of every community.

DISCUSSION.

Dr. John Darrington (Yazoo City): It gives me pleasure to say a word in discussion of this paper by a new essayist, this being his first paper. I remember distinctly that 32 years ago I read my first paper before this Association, and I am delighted to say that I think he has made quite an improvement over the one I read. Thirty-two years is a good long time, and I hope that 32 years from now he will still be in this society.

As the essayist said, this is elementary; he is simply refreshing your memories in regard to these universally accepted methods. Thirty-two years ago smallpox was the only thing mentioned in my paper. Since then we have remedies to prevent diphtheria, typhoid, scarlet fever, etc., and the point I wish to make is that these remedies are available. How many men in the practice of medicine in Mississippi today, going into the various homes will say to the mother or father, "Have you had these remedies administered?" Every man who makes it a rule to say to the mother: Have you had this child vaccinated against smallpox? or, Have you had typhoid serum administered? or, Have you had toxin-antitoxin given? please hold up your hands. I see several. These children do not get the benefit from this knowledge unless we see to it that they do. So the point I want to make is that now that we have these valuable remedies and can save these children, it is our duty to impress upon the parents the necessity of having these things done.

Dr. J. E. Green (Richton): I just want to add a word to what the doctors have said—it is no use to have a good meal unless you eat it; you will starve to death if you just look at it. We have these remedies, but we are neglecting our own families. I don't suppose half the doctors have their own children inoculated against typhoid fever and certainly not against diphtheria and scarlet fever. Let us begin at home.

Dr. G. S. Bryan (Amory): Just a word along this line. I filled in a little gap as county health officer and I took occasion to write articles for my county papers. I insisted in these articles that for every child who contracted diphtheria in that county, as well as others, that some doctor—the family physician—could be held accountable, unless he had advised, personally and directly, the administration of toxin-antitoxin. I went further and said that whenever a child in this county or any other dies of diphtheria and the doctor has done his duty, then the responsibility for that death rests upon the father and mother or the guardian of that child. I believe

it had an effect because diphtheria is almost a thing of the past in Monroe County, Mississippi.

Dr. R. M. Adams (Ripley): These scientific papers are very instructive and uplifting to me, and they are immensely uplifting when we hear them from these young men. It means the dawn of a new era in preventive medicine, which is certainly the greatest field for service to humanity. I rejoice in the strength of the young scientific men, in their aggressiveness, fighting their way to the front and blessing humanity with their service. I bespeak splendid achievements for this young man who has given us this splendid paper.

I was very much impressed with Doctor Underwood's discussion yesterday, and a new field opened up before me. I thought of the wonderful work that could be done in Mississippi if our splendid doctors could get the vision and join with the agencies that are trying to drive out the forces that shackle the childhood of this State. We should bow our heads in disgrace until we are able to lift our eyes and look upon a field that is ripe for the harvest and say that these things shall not be. The fact that 89 children choked to death last year from diphtheria, a disease that is absolutely preventable; that approximately 1500 insane children were tortured with this horrible disease—I can see nothing more tragic than that a child should choke to death of diphtheria, and yet 89 did so last year in Mississippi. All this data the doctor gave us emphasizes the fact that only about one in thirty of the children in Mississippi have been immunized against this disease. We are tolerating this horrible disease, and the children are not only tortured with the disease but with the treatment. What a great field for service is preventive medicine. Yet so many of the doctors are actually walking by on the other side, ignoring the call of those who say, "Come over and help us." We are interested in the moral side of the proposition, we are interested in many programs of church and state. Let us try to enlist people in this great cause of saving the children of Mississippi from this dread disease that threatens them today.

Dr. W. B. Harrison (Poplarville): The basic idea that I have in mind has already been expressed here this morning.

It has now been 130 years since Jenner performed his memorable experiment on the boy, James Phipps, demonstrating the fact that smallpox may be prevented by vaccination. A century later it was shown that typhoid fever may be prevented by inoculation. Today, we still have both smallpox and typhoid fever. I am wonder-

ing if, a century from now, we will still have diphtheria and scarlet fever. Whether we do or not depends upon the profession in this and every other state.

I have done quite a bit of diphtheria work. Quite frequently I am asked if there be an epidemic of the disease that I am trying to combat. Of course not. If there were, I would not employ this method of fighting it. It is necessary that we impress people with the fact that in giving toxin-antitoxin, we are looking at least three months ahead.

Dr. W. H. Scudder, (Mayersville): I just wanted to say a word about the relative value of protection from smallpox by vaccination as compared to protection given by a former case of genuine smallpox.

I was health officer of Issaquena County for 25 years, and saw hundreds of cases of smallpox of all types, but extremely rarely, if ever, did I see a case of so-called varioloid—the patient having been protected by a former vaccination. But I did see a severe case of smallpox develop in a man already thickly pitted from a former genuine smallpox of two years before. So, in my experience, vaccination protects equally as well as a former case of genuine smallpox, and furthermore it protects for life.

Dr. Gilruth Darrington (closing): I have nothing further to add, but I want to thank the doctors for their valuable discussion. I think it is the personal duty of the doctor to insist upon this immunization and not let someone else do it.

PAIN IN THE RIGHT ILIAC REGION.*

R. B. YATES, M. D.,
GREENWOOD, MISS.

This paper is not intended to bring out anything new, but to brush our memory on some of the pitfalls into which we are liable to fall when confronted with a patient with the symptoms of right iliac pain predominating.

For convenience, I will divide into three classes the conditions causing right iliac pain:

First—Disease common to both sex, namely: appendicitis, ureteral stones, kid-

ney stones, ureteral kinks, obstruction from clots of blood or lumps of pus, intusception, diverticulitis, intestinal obstruction, intestinal parasites, duodenal and gastric ulcers, gall bladder disease, hepatitis, liver abscess, mesenteric embolus, lobar pneumonia, diaphragmatic pleurisy, and the hernias, femoral and inguinal.

Second—Disease common to the male, namely: all of the first plus the following: the inguinal hernias, both oblique and direct, inflammatory obstruction of the vas deferens, disease of the right epididymus and disease of the testicle.

Third—Disease common to the female, namely: all of the first plus the following: salpingitis, pyosalpinx, tubal pregnancy or extra-uterine pregnancy.

It is impossible to prepare a paper with a differential diagnosis on all the conditions mentioned, but it is my aim to confine myself to the conditions that confuse the surgeon most. The above conditions do not all have right iliac pain as a predominant symptom, but merely have a referred pain to this area. Therefore, I shall come down to the three conditions with identical symptoms at times, viz: appendicitis, right kidney and ureteral disease, inflammatory disease of the Fallopian tube. Here we have three dangerous diseases, the symptoms of which may be practically the same, viz: pain in the right iliac region, nausea, rigidity, rise of temperature, increased leukocytes, and we may have a paralytic ilius in any of these conditions.

At first thought we will possibly all say that ought to be easy enough. In the typical cases this is true, but it is the atypical cases that baffle us. How many times have we opened an abdomen for an acute appendicitis and find less pathology than expected in the appendix, if not indeed a perfectly normal one, and remark that it must be semi-acute, chronic, or some other makeshift expression, when in our heart we are half sure we are mistaken in our diagnosis.

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Our patient goes about a week relieved, when suddenly they have another attack and we know it cannot be appendicitis. We watch the urine closely and find pus (clumped pus), a plug of which had caused all the trouble. Now this is a justifiable error, if indeed errors are ever justifiable, because I am supposing that none of us would operate without previously having a very painstaking examination of urine and blood. However, the urinalysis may be negative as a result of obstruction of the ureter on the right side. The blood might present the same picture, then there is only the pain left to help differentiate the two diseases, which I confess I have failed to do.

True enough, we might wait a short time and the next urine would contain pus in abundance, but how many times have we waited a short time to clear our minds and find a ruptured appendix, when if we had operated early we could have closed without drainage and saved our patient a long stay in the hospital, or maybe a funeral.

In the final analysis we must admit that these doubtful early cases should be cystoscoped and urine taken from each kidney by catheterization. The catheter will push the plug out of the way and the urine will be full of pus. The argument enters here that if the case is an appendicitis, the punishment is very great. True enough, but if it is not appendicitis the case does not need a laparotomy. Of these two procedures, the cystoscopic is the lesser. And, too, I have seen cases that were operated for appendicitis and later have the X-ray reveal a stone in the pelvis of the kidney. So a pyelogram at the time of the cystoscopic examination might keep us out of error here, and only consume a moment of time.

Now we come to the next condition, viz: the differentiation between right salpingitis and appendicitis. Here is the condition in which we are helpless, except for the fact that appendicitis is more prevalent in the male than female, and salpingitis is worse around the menstrual period. Still,

to differentiate between the conditions in the female is a problem to tax our wits. We are confronted with a blood picture very similar and frequently the same. The urinalysis throws no light on the subject, in fact we are left to use our sense of inspection and palpation and consideration of the habits of the patient.

We might say we will operate to clear up the diagnosis, but when we consider the dangers of early operation in salpingitis, and the dangers of procrastination and late operation in appendicitis and the contra-indication to operation should the condition be one of kidney or ureteral disease, it behooves us to exhaust our aids in an effort to make an early diagnosis, for many reasons.

For instance, the laity believes, or at least a lot of them believe, that a median incision in a lady in all probability means an infection of the tube or ovary. Therefore, we hate to make a median incision in a young girl whom we believe has walked in the straight and narrow path, yet, if we have the shadow of doubt about our diagnosis, we must go through a median incision. Then, if we have early gonococcus infection of a tube, we would do our patient justice if we find that we have erred in our diagnosis to close her up and wait until the acute symptoms have subsided.

This suggests to my mind two cases in which I made mistakes in diagnosis. You will please pardon me for I am aware it is not customary to report cases in which we make errors. In these cases, however, the undertaker did not bury my mistakes, hence the reports.

Case 1. Miss. Y., family history negative, had several light attacks of pain in the right iliac region with nausea which never lasted long. She never called a doctor until the last attack when she called her physician who thoroughly examined her and from all symptoms diagnosed the case appendicitis. He sent her to me for treatment. She arrived in the afternoon, suffering severe pain in entire abdomen, but worse over McBurney's point, extremely rigid over right side, tem-

perature 100, pulse 100, urinalysis negative, white blood cells 18,000, 88% polys. Diagnosis: acute appendicitis. I operated early that night, finding a normal appendix, but I kidded myself into believing it was slightly inflamed for six days when she suddenly had repetition of all her symptoms as above recited. The urinalysis was negative until the pain subsided, then it was full of pus. I changed my diagnosis, put her on potassium acetate and citrate with instructions to keep this medicine on hand and take it every time she noticed any pain in this side. She made an uneventful recovery, left the hospital and sings my praises for curing her appendicitis.

Case 2. Mr. K., family history negative, age 27, white farmer, had some pain at intervals for past two or three years in right iliac region, but taken suddenly with pain over entire abdomen, worse over McBurney's point, rigidity very marked, nauseated, vomiting everything taken by mouth, urinalysis one plus pus, leukocyte count 15,000, 80% polys, diagnosis: acute surgical abdomen. I operated, going through right muscle appendix, retrocecal and very difficult to get. Had to amputate at the base and dissect it out which was a very tedious task. When it was finally removed, of course being rather long and having been traumatized considerable, I kidded myself into half believing it was bad enough to account for all his symptoms. However, I felt of his gall bladder and stomach and both appeared normal. He had some infection in the abdominal wound, otherwise he got along fairly well and left the hospital in two weeks. I haven't heard of him praising me. He has been back, however, complaining with the symptoms he suffered prior to the bad attack when he was operated. I made an X-ray picture using the Bucky diaphragm, and found in the right kidney pelvis a shadow which I am inclined to believe to be a stone about the size of an almond. He hasn't agreed to let me cystoscope him, nor operate any more. He may agree sometime during an attack of what I now call renal colic.

CONCLUSIONS.

(1) Every case of appendicitis should be diagnosed and operated early.

(2) Doubtful cases should be cystoscoped and pyelogram made which will demonstrate pus plugs, stones, or ureteral kinks.

(3) When an acute surgical abdomen is opened and found to be an acute tubal infection, it should be closed without interference and wait for it to clear up, which

they will frequently do, or become chronic walled-off abscesses at which time they can be removed without so much danger to the patient.

DISCUSSION.

Dr. C. R. Berry (Tupelo): Dr. Yates has discussed a subject that brings up a great many problems that we are more or less familiar with—pain in the right iliac region—yet there are many problems in connection with this subject that are difficult to solve. He mentioned three of them, and I want to say something about each of these.

First, pyelitis and how to differentiate it from appendicitis. The essayist suggested that we use a cystoscope. I thoroughly agree with him on this point, provided we know how enthusiastic and efficient the doctor is in using the cystoscope. The sheet anchor of differential diagnosis is careful history taking in connection with the physical findings. A helpful point is to find out the origin of the pain. Did it originate all over the abdomen and finally settle in the iliac region, or did it begin there? Remember, that as a rule the fever is higher in pyelitis than in appendicitis, and the pain is usually not as severe. After these things have been thoroughly considered I think it is all right to make a cystoscopic examination, if the general examination, history and physical findings point to the kidney rather than to the appendix.

Personally, I have had more trouble with the next problem—differentiating salpingitis from appendicitis. I admit that in these cases it is often very hard to decide whether it is best to operate or not. If it is acute salpingitis we do not want to operate; if it is acute appendicitis as a rule it is best to operate. Here, too, getting a careful history will often help wonderfully in differentiating these two conditions. In appendicitis the symptom of nausea is more prominent than in tube trouble. Then in appendicitis I believe we get more of a history of paroxysms that pass off in a short time—there will be trouble for a few hours and then it will apparently clear up and appear again in a few days, weeks or months. In salpingitis the tendency toward paroxysms is not so general as in appendicitis.

In regard to cases where the appendix is apparently normal, I believe that on a close examination we may find a large per cent. of them are pathological. Often we see appendices that look normal when first seen in the abdomen, but even such specimens may contain some pus in the distal end. A great many appendices that look normal macroscopically; under the microscope are not

normal—they may be badly infected, and we get good results by removing them.

Dr. A. G. Payne (Greenville): There are two or three points that I want to bring out that Dr. Yates mentioned, but did not emphasize as much as he should.

One is in regard to the incision. In a great many instances it has been my displeasure to see, in my own work and in others, that I could not distinguish between an appendicitis and a gall bladder condition, or a rupture of a duodenal or pyloric ulcer, where a McBurney incision was made. According to my idea the McBurney incision is overworked. For instance, if we have a rupture of the duodenum or the pyloric end of the stomach, if we have made a McBurney incision that patient is handicapped as well as the surgeon. I have recently seen some disastrous results along that line.

Another point is that in women, where it cannot be accurately determined whether the trouble is in the uterine appendages or the appendix, the midline incision is far preferable. I have seen some instances where the surgeon's results would have been much better and ultimately the patient would have benefited more if a median incision had been made. If there is one dogma I would adhere to it is that in lower abdominal trouble in women we make a median incision with the exception of acute fulminating appendicitis.

Dr. Robert H. Foster (Laurel): In our hospital at Laurel we have a ward of about twenty beds for colored women. As a rule about fifteen of the beds are occupied by cases of pus tubes, and the others with fibroids. My experience has been that if there is any doubt as to whether it is appendicitis or pus tubes, if the woman is colored, it is pus tubes. We very seldom have a negro woman with straight-out, frank appendicitis. But our experience is that they do not come as soon as they have a pain in the side; we usually have a history of repeated and prolonged attacks.

Another thing, the doctor said something about opening, finding acute pus tubes, then closing and taking them out later. If you make a mistake and find pus tubes, take them out and you will have good results.

Dr. L. S. Lippincott (Vicksburg): There is one reason that has not been mentioned why it is more difficult to tell the difference between pus tubes and appendicitis, and that is that they are usually both involved. We have been examining all of our specimens microscopically, and practically never do we find an appendix that has

been taken out at the same time as pus tubes that is not involved. It is different from the inflammation in appendicitis without tube inflammation. Appendicitis by itself usually starts from the lumen, but with pus tube infection it starts from the surface.

Dr. J. E. Green (Richton): How about pain on the right side where you cannot operate? I do not know whether you have this experience or not, but out in the country the mother and the grandmother will treat the patient for this acute pain, and they use heat, and they use cold. I wish the essayist would tell us if that is all right. I think in these cases if we could keep everything out of the stomach, keep the patient absolutely quiet, with an ice bag on for twelve hours, the diagnosis would not be so difficult.

Dr. R. B. Yates (closing): It was not my purpose to try to tell any of you gentlemen anything about surgery in the right iliac region; but it appeared to me it would be a good thing to bring out discussion along this line.

There are points that are baffling to all of us at times, but I think we get into more trouble in the right iliac region than any other part of our anatomy. Someone spoke of the appendix looking normal macroscopically, but microscopically showing infection. Normally the intestinal tract contains a lot of bacteria, and I believe the appendix is the same way.

One of the gentlemen emphasized the fact that you are safe in taking out pus tubes any time. I agree with that, and I believe the big majority of these salpingitis cases will clear up if you let them alone.

I agree with Dr. Payne that in women it is the safe thing to do to make a median incision.

As to whether to use heat or cold, I believe cold is better. I believe local applications are good, if for no other reason than to make the patient believe we are doing something until our diagnosis is cleared up.

THE PRE-SCHOOL CHILD.*

FELIX J. UNDERWOOD, M. D.,
JACKSON, MISS.

There is no unanimous definition of the term, "pre-school child." While it is usually used as referring to the child of the age

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period between infancy and the time of entering school, it is more frequently construed as beginning with either the first or second year of life and ending with the sixth or seventh year. More recently the term has been used by students of child development as inclusive of the entire period from birth to the eruption of the six year molars. With the tendency to establish school life in earlier years, that is, the kindergarten and nursery school, the meaning of the term is becoming even more complicated and indefinite. From the standpoint of child hygiene activities, however, we usually mean the period from the second to the end of the sixth year.

The growth and development of the child is a continuous process. In the same way that many of the health problems of the school child have their origin in the pre-school years, so, many of the problems of the pre-school child or as he is often called, the toddler or run-about, date back to infancy or even pre-natal life. While from an administrative point it may be necessary to consider periods of development, the fact that these are arbitrary and have no existence in the true sense of the word, in an anatomical or physiological growth, must be kept clearly in mind.

The pre-school period has frequently been termed the neglected period of childhood, in the sense that less child hygiene work has been done for children of this age than for infancy and school age—further, we know less of the normal growth and development at this period, which is, of course, essential for a comparative knowledge of the abnormal. The difficulties of reaching this age group are well known. The methods of solving the problems it presents must still be considered in an experimental stage.

Given the necessary requirements, the pre-school child automatically grows and thrives. The pre-school child needs sunshine, pure air at proper temperature day and night, pure food properly balanced and

served at regular hours, plenty of pure water inside and out, and twelve hours of sleep out of the twenty-four—ten at night and two in the day. Proper clothing adopted to climate and seasons should be worn. Special care of the eyes, ears, nose, throat, teeth, skin, scalp, hair, nails, hands, and feet should be given. The child should be trained relative to food and other health habits; also have a daily bowel movement at a regular hour. A certain amount of freedom and exercise and supervised play is important.

The diet of the child should be judiciously chosen and he should be taught thorough and slow mastication of meals at regular hours. All food should be pure. If the child is undernourished, a glass of milk, or crackers, or fruit, may be given between meals. Milk is an essential, but it must be fresh, clean, and sweet. If the child objects to plain sweet milk, it may be given in various forms, such as: cocoa, ice cream, white sauce, milk gravy, custards, cream soups, milk toast, scalloped vegetables, on cereals, and buttermilk with cream added. Eggs must be fresh, and lettuce and other leafy vegetables, crisp and thoroughly rinsed in pure water. Milk and green vegetables make bone, muscles, and teeth. Meat and eggs are great muscle builders. Bread, cake, cereals, and desserts give energy for work and play. Cooked cereals are better than ready to eat ones. All food should be simply prepared, without seasoning except for salt. On very hot days, less food is necessary.

Temporary loss of appetite is usually caused by over-feeding. Over-feeding, and faulty-feeding, help to establish wrong food habits, cause indigestion and attendant ills. A capricious appetite is a matter of faulty training in food habits. Constipation may be overcome by a balanced diet and regular food habits.

Children between the second and third year may be given minced white meat and scraped beef daily. Children over three

years of age may have pure candy several times a week, after the noon meal. After the third year, they may be given tender meat cut into small pieces, for desserts they may be given stewed fruits, simple puddings, jellies, custards, honey, plain sponge cake, plain ice cream, or a piece of pure sugar or molasses hard candy. No sweets should be given, except after meals. Soda drinks or coco cola, tea, coffee, pies, doughnuts, pastry, and fried foods, or greasy gravies, should be prohibited.

A child has the right to be protected against contagious diseases and vaccinated against diphtheria, typhoid fever, smallpox, and scarlet fever. He should be weighed and measured regularly and a record not only kept, but compared to the average weight and height. An examination by a dentist every six months and by a physician every year is a wise investment. Physical defects found should be corrected and special care should be given to the underprivileged and to the handicapped child.

"A child should be thought of as something more than arms and legs which are always tearing clothing and getting him into trouble, or eyes and ears which are seeing and listening when it is inconvenient for adults to have them, and a stomach and internal organs which get out of order. A child has a mental life far more delicate and complicated than his physical body; far more difficult to keep in order and much more easily put out of adjustment. A child lives a real mental life, full of hopes, ambitions, doubts, misgivings, joys, sorrows, and striving that are gratified or thwarted, much the same at three years as they may be at thirty." So says Dr. Thom, a child specialist, who has charge of a habit clinic for children of this age.

Those who are interested in children and have studied their growth, know that the home is a work-shop in which the characters and personalities of individuals are molded. A child is sensitive to home atmosphere, therefore, a harmonious home life

aids in his growth. He should be allowed freedom of expression instead of suppression and repression. He should be given the initiate, yet taught obedience. He should be educated by example in unselfish service to others. It should be steadily borne in mind and publicly broadcast that the physical, mental, and moral health, and the happiness and efficiency of the adult are largely the result of habits acquired during the pre-school age.

In discussing the health examination of children of this period, it is an obvious necessity to consider what we mean by this term, its purpose and its scope. First of all, it means a physical examination to discover physical defects or diseases which are prejudicial to the health of the child. As a corollary to this, means and facilities must be provided to correct the defects found, otherwise, the mere physical examination is a meaningless gesture. It must also include an examination, from time to time, for the purpose of checking up growth and development in order to ascertain if these are taking place in a normal manner. This health examination should extend beyond the physical side and include the question of mental development in its broadest aspects, for we realize today that the mental growth which takes place during these years is of tremendous import. Furthermore, the habits and behavior of the pre-school child are intimately related to and connected with the physical problems.

The physical examination of the child should stress the important and minimize the unimportant. We have passed far beyond the point where statistical purposes alone can be the excuse for much of the unnecessary data collected, recorded, and filed away to be forever forgotten. Statistics of the physical defects of the pre-school child are quite in accord; here and there appear variations which are due to social and racial differences in the type of material examined, as well as to the personal equation of the examiner's record.

Among pre-school children, malnutrition exists in from twenty to twenty-five per cent. Postural defects, related to muscular and skeletal systems, occur in from forty to fifty per cent. Dental defects are the most common, sixty to seventy per cent of caries, in a greater or lesser degree, being present. Nose and throat troubles rank high, totaling over forty to fifty per cent. For visual and eye defects, quite divergent figures have been recorded. Heart, lung and nervous diseases are relatively low. The importance of these figures is not simply that they indicate that a large part of our pre-school population, estimated at about ten million, is physically defective or abnormal, but that these children reach school age handicapped. These physical defects which should have been prevented or corrected are in large part responsible for the fact that about twenty-five per cent fail to be promoted at the end of their first school year.

Nutrition is recognized as an index to the general health and physical condition of the child. Malnutrition is not a disease, but its presence is important as an indication that something is wrong in the child's physical condition or environment, requiring a thorough search for the factors at fault. Malnutrition cannot be based on the height, weight ratio, alone, but must take into consideration development of the muscular and skeletal systems and other factors. Existing tables of the height, weight ratio, are satisfactory for practical purposes.

Closely associated with the nutritional condition is the question of faulty posture. It is not infrequently the result of malnutrition in early infancy or rachitis in later infancy. In this respect, many of the postural defects should have been prevented earlier, but a great deal in the way of exercise and training can be done at this period to correct the defects and prevent them from increasing and being carried over into the school years.

The examination of the nose and throat is most important. Some fifty per cent of pre-school children show diseased tonsils or adenoid hypertrophy or enlarged cervical lymph nodes. There is usually confusion in classifying these things together. This is a most unfortunate tendency and it is closely related to the conception that diseased tonsils and adenoids are one and the same thing. Tonsils may be infected and be a cause of chronic toxemia in young children, but this is uncommon. During this age tonsils are rarely so large as to cause obstruction. Adenoids, either chronically or acutely enlarged, on the contrary, often obstruct nasal respiration, leading to infection of the adenoid tissue and nasal openings, to the mouth, and thus lead to mouth breathing. Adenoids cause trouble and need removal, perhaps in ten cases to one in which the removal of tonsils is required, at this age period.

To what extent defective first teeth are a cause of ill health and are related to nutrition, is hard to say. Proper oral hygiene, is, of course, essential and the prevention of bad decay of the teeth by dental means is important. Food to build teeth during the pre-natal period and infancy is of paramount importance.

It is exceedingly difficult to determine eye defects at the early pre-school period; this examination can only be made by an experienced eye specialist with patience and skill. Careful study shows that about eighty-five per cent of children of this age have good vision. Hearing is also difficult to test in the routine examination.

Organic heart disease is uncommon, and, usually, congenital. Most heart murmurs heard at this age are functional. Most children of this age with pulmonary diseases are already under the care of a physician, as a result of some definite illness.

It is during this age that communicable diseases are greatest in incidence and mortality. It is believed, also, that children of

this age are specially susceptible to tuberculosis. Diphtheria, scarlet fever, typhoid fever, and smallpox are diseases against which we have definite methods of prevention. Vaccination against smallpox should be carried out in infancy; toxin anti-toxin injections against diphtheria should be given in the latter part of the first year. To wait until the school age to immunize against diphtheria, is to leave the child unprotected during the most susceptible period of its life. Inoculation against typhoid may be given before entrance to school.

Watching and recording the development of the child during the pre-school years is as important as the physical examination for the detection of defects. The actual and percentage growth is fairly constant from year to year and relatively small compared to the first two years of life. The annual average gain is, approximately, four pounds, and the increase in height two and one-half inches.

Our knowledge of the mental development and psychology of the pre-school child is incomplete. It is only recently that this side of the child's development has been made the subject of intensive experimental study.

To outline by periods the mental growths and the development of personality traits, and to discuss the emotional conflicts of the pre-school child, are impossibilities within the limits of this paper. That they should be a part of the health examination, we are satisfied; but, just how such examinations are to be carried out and made practical for general application is a problem which must be worked out. Here, again, experience will help to separate the essentials from the non-essentials.

For a group of pre-school children about to enter school, a child health conference may be held. We prefer to think of a child health conference as a demonstration held by physicians, dentists, parents, and others interested, to discover the physical condi-

tion of the children. We believe that this should be non-competitive; that no score card should be used; and that it should be a conference or demonstration and not a contest or clinic. It is not intended for sick children, but for the great number of children who, though apparently well, are rarely free from physical defects. It includes a careful physical examination of the child, the purpose being to ascertain the development as compared to the recognized normal standard, to instruct the parents relative to health habits in order to prevent defects and to discover defects at an early age, when they may be easily remedied by proper hygiene or medical care. If defects are found the parents are advised to take the child to the family physician or to a specialist. Examination blanks are furnished by the Bureau Child Hygiene and Public Health Nursing and the parent is, also, given a written statement of the child's condition. Those children having no physical defects are awarded a health button from the State Board of Health. Primarily, the purpose of this conference is for the sake of the child, but a most vital factor is its educational value. It is a practical demonstration to the community of the value of a periodical physical examination. It stresses personal hygiene and other preventive measures, in order that infants and pre-school children may be kept well, and ready to enter school without defects.

DISCUSSION.

Dr. N. C. Womack (Jackson): The doctor has brought to us a subject that in its relation to the economic life of the community, for the present and for the future, to my mind, stands in the first place of importance. The sociologists, the psychologists, the specialists in children's diseases, and general practitioners are meeting in this theatre of pre-school life and studying the infant for the purpose of prolonging life, and increasing the chances for good health in later life.

The first great thing in the care of a normal child is its diet. We doctors see a great deal of third, and fourth degree rickets, of low hemoglobin, low Poly. count, undernourishment, no-

dules on ribs, flat chest, etc. But diet is the important thing. The doctor has covered that field, but I want to make one point. A great many doctors are putting babies when they are about ten days old, not as medicine, on codliver oil and orange juice, small doses, and keeping them on that for the first year or two years. That with a balanced diet will take care of a child from the standpoint of diet.

See that the child is immunized against diphtheria early—there is no reaction and no danger. When it comes to scarlet fever, the baby should have a Dick test. Immunize the children against typhoid fever and smallpox. When the baby needs to have tonsils and adenoids out, look after sinus infection. This is important in the rearing of children,—getting rid of infections. This question comes up in Dr. Ramsay's practice. Over 800 children in Georgia were examined and a large percentage were found with intracranial hemorrhage. These children that are going around with spastic paralysis, and are permanently crippled could be relieved often by a spinal puncture. Tuberculosis is a disease of early life. Tuberculosis in later life often comes from infection before the fifth year, and it should be looked into then and treated. Eight and a third per cent. of children will show positive Wassermann and of course should have proper treatment. Remove adenoids and tonsils when necessary.

Dr. Harvey F. Garrison (Jackson): This subject is probably the most important that could be brought before any medical meeting; the subject of the proper regimen for the pre-school child. As the fraternal delegate of the State Medical Association this year, it was my privilege a few weeks ago to read a paper before the State Dental Association on the subject of Mouth Hygiene and in that paper I stressed the importance of the things the speaker has gone over today. Dr. Underwood has so thoroughly covered the subject that there is nothing left for one to say except to agree with him.

I might go a little further back and impress, a little more than he did, the importance of pre-natal feeding. One of the most important things in any child's life is the proper diet for the mother before the child comes. I do not think the doctors could do a better thing than to impress this fact upon expectant mothers. You know we used to eat too much biscuits and molasses, white bread, etc., and not enough green vegetables. Next in importance to pre-natal feeding is the feeding of the infant itself. The most essential thing after a child is born is that it be breast-fed. We have found a disposition on the part of some doctors to advise mothers

to wean their babies just for some little upset or irregularity that would be easily corrected if the proper attention were given to the condition by a trained pediatrician.

A week ago I saw a baby that had a little bowel trouble for a few days, and the doctor who was in charge of the case advised the mother to wean the baby and put it on condensed milk. Usually these things can be corrected and the mother can nurse the baby if the condition receives the proper attention by some one who is trained in handling these problems, so we should impress and insist on the importance of the mother nursing her baby.

If the baby cannot be nursed, the next best thing is the proper modification of cow's milk. Get away from condensed milk. Cow's milk properly modified contains the essential elements that go to make the child's bones and teeth. Most of the deciduous teeth are made before the child is born, hence the great necessity for the proper pre-natal diet. The next thing in importance is feeding the child after the infant period, and then you should go to whole grain feeding, green vegetables, and give the child variety. I agree that codliver oil is important, especially in cases where we see signs of rickets. It is not necessary to wait until rickets has already developed to give the codliver oil. It is very necessary to stress the things Dr. Underwood has mentioned—careful physical examination of the child by some competent person. A dental examination twice a year and a physical examination once a year, and then the correction, if possible, of all the defects discovered by such examinations.

In regard to removing tonsils and adenoids in children, we know we have a great wave going over the country just now to take out all the tonsils and adenoids in children. I do not think they all ought to come out, but certainly all that are infected should come out and many of them are infected. This morning I assisted in the removal of adenoids from a child who had the tonsils and adenoids taken out some time ago, but the adenoids had recurred and you will find this happens rather frequently even though they are removed by some of our very best operators.

To summarize we should say the solution to this subject lies in, first—proper pre-natal care and feeding; second—where possible, we would insist that every mother nurse her baby; third—if for any reason the baby is weaned it should be placed under the care and feeding directions of a well trained pediatrician who will insist on feeding cow's milk with the addition of other foods at the proper age; fourth—eliminate the pernicious habit of eating candies and sweets or any other food between meals. Feed whole grain

foods, green vegetables, an abundance of fruits, pure whole raw milk to the run-about child, and correct the dental and physical defects.

Dr. H. H. Ramsay (Ellisville): I like Dr. Underwood's paper. It is a splendid presentation for the reason that it is well balanced from the mental and physical standpoint. The mental development of the child is seldom taken into consideration. Very few people recognize the fact that the child is mentally defective until it is old enough to become active and the parent or physician begin to notice that there is some lack of activity on the part of the child. Mental conditions are more or less masked for the simple reason that we cannot see the mind. A ten-year-old boy with one leg off can start down the streets of Jackson and by holding out his cap can gather as much coin in a day as some of us doctors. But if some ten-year-old boy with a five-year-old mind were to start down the streets of Jackson, people would kick him out of the way, when as a matter of fact he is a worse cripple than the boy with only one leg.

The average doctor, if he is a close observer, should make a diagnosis of mental deficiency in a baby rather early in life. The outstanding things that present themselves are, late dentition—you can always suspect mental deficiency if a child is late in cutting teeth. If it is late in noticing; if a child continues after two or three years to soil itself; if its movements are not proper—all these things should excite suspicion on the part of the parent as well as the physician as to the child's mental efficiency. Then when mental deficiency is diagnosed early in the life of the child, the shock that comes to the parents can be overcome and its training begun early. When it is recognized when the child is older it is a much more difficult problem. We should recognize these conditions early in life.

Dr. C. M. Murry (Ripley): Such an excellent paper taken in conjunction with the other papers at this session, and the discussions that we have had, simply accentuate the tendency of this great profession to advance toward that hopeful time when medicine shall be resolved mainly into two parts—prevention and surgery. When we look back to the beginnings of the Board of Health in this State—the main part of their work prior to 1900—was the appointing of health officers in the counties, and to examine those boys who expected to obtain licenses to practice medicine, giving many medicines for diseases of which they knew nothing—I say when we go back to 1898 and see the first forward step in this State, we have cause to rejoice. Beginning with the prevention of yellow fever, we have

made rapid progress, but we still need to continue the work along educational lines, and arouse public sentiment so it will not be necessary to come down here and make a fight to get an appropriation to continue the great work of public health.

Dr. E. L. Wilkins (Clarksdale): Dr. Underwood has told you that 40 per cent. of the pre-school children suffer from some diseased condition of the nose and throat, and when we add the ear, and the eye, I think will run it over 50 per cent. of the pre-school age children. We find lots of these little fellows who need this attention, but they are told by their family physician, "Well, he has a little trouble with his tonsils and adenoids, but they ought not to be taken out until he is five years old, and perhaps by that time he will outgrow it." By the time the child reaches the age of five it will have received a tremendous amount of injury to the bony formation of its face and the under part of the brain cavity. There will not be the proper formation of the bones of the face if the child has disease of the nose, throat and ears, particularly tonsils and adenoids. We cannot wait for that age. So many people come to me now with a child whose throat is almost closed and it is not breathing through its nose—and they have been told the child is too young to have its tonsils and adenoids removed. It is up to the family physician to educate these parents.

I think any man in general practice who is doing any work in treating young children is inexcusable if he does not have in his armamentarium an ear speculum, a tongue depressor, a nose speculum, and a head mirror. With these and some kind of electric light he can make a thorough examination of the throat, nose and ear. Every man who is doing work among children should have these.

As to the routine removal of adenoids, I differ a little bit from Dr. Underwood on that. He said ten to one need adenoids removed when they do not need the tonsils removed. I believe it is almost the reverse that not more than two in ten will give good results if you remove the adenoids alone. That is my experience. I do not mean to sacrifice normal tonsils; but adenoids will recur in 50 to 75 per cent. more cases when tonsils are not removed than where they are.

The ear was not discussed much. Too often the doctor lets the child go on, giving it some relief for the ear, when the ear drum should be incised. It is not much to do a paracentesis of the drum membrane, but when the drum is bulging and angry and red, it should be incised

with a long curved or angular incision and not wait for it to rupture. More than 50 per cent. of cases of long-standing otitis media are the result of spontaneous rupture of drum and not from those where the drum has been opened with a clean surgical wound.

Dr. Felix J. Underwood (closing): I certainly appreciate the liberal discussion of my paper.

With reference to the removal of tonsils and adenoids, I know we are getting away from the reckless slaughter of tonsils and becoming conservative. I fail to see why you should remove healthy tonsils to prevent the recurrence of adenoids. The child might very much rather have an experienced man take out the adenoids the second time than to sacrifice the tonsils for that purpose.

I will not discuss this further, but I want to mention the Children's Health Camp. You doctors are familiar with the camp we conducted last year, where we had twenty-five children between the ages of seven and twelve under medical supervision of the State Board of Health. Mrs. Robert Phifer, of the State Tuberculosis Association, has been for years talking and working to the end that we might have a State Health Camp for undernourished children. We joined hands with her and had the camp last summer and will have one this summer. We will take care of fifty children this summer, 25 in July and 25 in August, between the ages of seven and twelve.

The money has come in for twenty children, but we have thirty more to provide for. We are not asking the doctors to interest themselves in raising money for this, but we want you to be on the lookout for children who most need this particular service to be rendered at this camp. Dr. W. S. Leathers, who spent a year in Europe, visited the camp last summer, and in the presence of Dr. Dan J. Williams, his wife and others stated that in his judgment it was one of the best things that had been done by the State for the prevention of tuberculosis in children. In the little State of Denmark where he was visiting only recently, he stated they had twenty such camps fostered by the State.

We want your co-operation, and we want you to be on the lookout for children who will be most benefited by a month's stay at this camp.

SURGERY OF THE SPLEEN.*

H. A. GAMBLE, M. D.,
GREENVILLE, MISS.

The spleen has three definitely known functions. These are the formation of white blood cells, the destruction of red blood cells, and the destruction of detoxicating of bacteria and poisons.

Besides these three there are four other functions which have been hypothetically ascribed to the spleen and to a limited extent from experiment found to be intimately associated with it, viz., the conservation of iron, the formation of cholesterol or bile salts, an internal secretion which supposedly aids digestion, and has a controlling effect upon all the blood forming organs.

It has been only of comparative recent date that the clinician and surgeon have recognized that disorders or malnutrition of the spleen either as a blood-destroying or blood-making organ or overactivity from exercise of its detoxicating function, has been the main factor in the causation of several of the more prominent blood dyscrasia, such as essential purpura hemorrhagica, hemolytic jaundice. Banti's disease and some of the leukemias probably play a not unimportant role in the development of the graver disorders of the blood forming organs.

Clinical results have shown conclusively that in Banti's disease, hemolytic jaundice and chronic purpura hemorrhagica, the operation of splenectomy is both life saving and curative, and that in many of the pernicious dyscrasias of the blood it sometimes cures and often prolongs life.

I wish to take for the basis of my discussion today three cases which have recently come under my observation, each of which was in an unusually advanced stage of the disease entity to which it belonged,

*Read before the Mississippi State Medical Association, Jackson, Miss., May 11-13, 1926.

and in which this operation was clearly a life saving procedure.

The first case of chronic purpura hemorrhagica was admitted to the clinic May 15, 1924, because of intractable nose bleed and was referred to Dr. Montgomery, later coming under my care. The history was as follows: Family history, mother living and healthy, father dead. Patient had had influenza, scarlet fever, measles and mumps. Had previously had adenoids removed. On March 10th had hemorrhage from the kidneys, prior to this had had a fever and cold with pain in chest and back. For five years had had similar attacks of nose bleed with at times attacks of subcutaneous ecchymoses.

Physical examination showed heart and lungs normal. Constant bleeding from the nose. There were also present petechial spots over the body.

During intervals he was apparently well. This last attack with subcutaneous petechiae ecchymoses, bleeding gums and nose bleed had persisted for three months until he was almost exsanguinated. Patient had been transfused four times previous to coming under our care, and was twice transfused here being given 500 cc. of citrated blood at each operation. There was no appreciable checking of the nose bleed as a result of the transfusions, and as Frank in 1916 had reported one case, and Brill and Rosenthal in 1923 reported two cases in which splenectomy had been done for this condition with the happiest of results, it was decided to remove the spleen. Under N.O and ether anesthesia the spleen was removed without any technical difficulty, and by the time the wound was closed all oozing from mucous surfaces had stopped. In fact the effect was so immediate as to be spectacular. The patient made an uneventful recovery and in a recent communication his mother states that "He seems to be in perfect health so far, and has not had any further hemorrhages." The winter after his operation he had "flu" and his nose bled for a few minutes. This past winter it bled some when he had a bad cold. He looks like a different boy, has lots of color in his face, and weighs about 140 pounds."

For a true conception of the blood changes in this disease we are indebted to the earlier observation of Denis and Haymens and later to the more classical work of Frank and of Eppinger. They showed that the most salient feature connected with the blood was the increased destruction of the blood platelets by the spleen, and thus the marked lessening of their number in the circulation. They were

the first to note also that the bleeding time in these patients was markedly prolonged and that while the clotting time of the blood was not increased that there was no retraction of the clot as is normally the case. There have been a number of these cases reported in the literature of the past three years and the results have been uniformly successful, so that essential thrombocytopenic purpura hemorrhagica may be classed as one of the blood dyscrasias for which the operation of splenectomy is a definite cure.

The second case, J. M. D., was one of acquired hemolytic jaundice. History was as follows:

Family history—mother and father living and healthy, eight brothers and sisters, all living and in good health. Patient had had pneumonia in 1915 and influenza in 1922. During the past year had had several attacks of colic followed by jaundice. Two weeks prior to admission to clinic had an attack that was particularly severe.

Physical examination showed a mild degree of icterus. Some slight soreness over epigastrium. Anaemia marked. Blood count as follows: Hemoglobin, 35; Erythrocytes, 1,980,000; leukocytes, 6100; anisocytosis plus, 1; small lymphocytes, 30; large mononuclears, 6; polynuclears, 64%; malaria, negative.

On account of the jaundice and attacks of epigastric pain was thought to be suffering from gallstones. Further observation showed that the jaundice was not obstructive but hemolytic in type. On account of the marked anemia the patient was transfused three times with such marked improvement in health in every way that he refused to have his spleen removed. Nine months later he returned in as bad or worse condition than at first. After two preparatory transfusions the spleen was removed without difficulty the patient leaving the operating room in excellent condition. Three hours later symptoms of profound shock were manifested and it became necessary to do an immediate transfusion. His further recovery was without incident and went on to complete restoration to health. A recent report on the patient is to the effect that he died a few weeks ago from an empyema following pneumonia.

Hemolytic icterus is essentially a disease due to overactivity of the spleen in the destruction of an increasingly fragile blood cell, and the throwing on the liver of more pigment than it can utilize or assimilate at

the time. In this particular case when the crisis occurred there would at times develop a hemoglobinuria.

The blood in these cases shows aside from the anaemia an increased fragility of the red blood cells and an increase in the amount of bile pigment in the blood. This is best determined and the differentiation made as to whether the jaundice is obstructive or hemolytic by the use of Ehrlich's diazo reaction. The feces also show the presence of bile pigment.

The third case is one of advanced Banti's disease with some cirrhosis of the liver and marked ascites. There were a number of interesting features in connection with this case. History—age 48. For ten years had suffered from diabetes which during the three years preceding had necessitated a strict dietary regime and the constant use of insulin. In May, 1925, while on a trip became almost exsanguinated from a hemorrhage into the bowels. Two weeks later developed some ascites. For the next few months was seen from time to time in consultation, a diagnosis of cirrhosis of the liver with ascites having been made. His condition oscillated, sometimes better and again losing ground and from time to time having hemorrhages from the stomach and bowels. During the fall he was transfused twice and in November the ascites became very marked necessitating tapping which had to be repeated about every nine days, there being obtained at each seance twelve liters or three gallons of fluid. I again saw him in consultation and advised that a Talma-Robinson operation be done. After two preparatory transfusions on February 20th, 1926, under local and gas anesthesia a left rectus incision was made on account of the possibility of the condition being due to the spleen. The surface of the liver was a little roughened but not sufficiently cirrhotic to account for the clinical features of the case. The spleen was about three times the size of the normal spleen and weighed 402 grams. Capsule thickened and bound by adhesions to the diaphragm and to its bed over the kidney. Spleen was removed, all oozing controlled and the omentum attached to the abdominal wall, after first roughening the wall according to the technique of the Talma-Robinson operation. For the first forty-eight hours following operation condition was satisfactory. At the end of seventy-two hours there was an almost complete suppression of urine, the C O_2 combining power of the blood was 32, and general condition was bad. He was transfused and under the continued administration of glucose intra-

venously and insulin which had been started immediately after operation he made a satisfactory operative recovery, and furthermore has continued to improve in every way in his general health. His blood now shows hemoglobin 80, erythrocytes 4,760,00, leukocytes 7700, small lymphocytes 32, large mononuclears 7, polys 60%. Malaria negative. He has gained twenty-five pounds in weight, strength is rapidly returning, and there has not up to the present time been the slightest indication of ascites.

Splenic anaemia is defined by Osler "as a primary disease of the spleen of unknown origin characterized by progressive enlargement, attacks of anaemia, a tendency to hemorrhage, and in some cases a secondary cirrhosis of the liver with jaundice and ascites. That the spleen itself is the seat of the disease, is shown by the fact that complete recovery follows its removal."

As Osler states, its etiology is unknown, and while there are many theories as to its causation, the most plausible one is that primarily there results from infection or a toxemia an enlargement of the spleen, which after it has served its normal function of destroying bacteria or detoxicating poison continues its increased activities, particularly as a hemolytic organ.

Splenic anaemia is a distinct clinical entity, the symptoms of which however are spread over such a prolonged period of time that they must be correlated in order to obtain a concrete clinical picture.

The presence of an anaemia with a low color index, a leucopenia, enlargement of the spleen, gastro-intestinal hemorrhages, and in its terminal stages cirrhosis of the liver and ascites together with the elimination of the other blood dyscrasias serve to establish the diagnosis.

Removal of the spleen is positively indicated in hemolytic jaundice, essential purpura hemorrhagica, splenic anaemia, rupture of the spleen, primary tuberculosis of the spleen, and in some of the splenomegalies due to chronic disease which have not proven amenable to medical measures.

It has a relative field of usefulness in some of the more pernicious blood dyscrasias such as early spleno-myelogenous leukemia especially if the spleen is the primary site of the trouble. W. J. Mayo in a recent article states that in going over the records for splenectomy done for pernicious anaemia he has found that those patients lived two and one-half times as long as those unoperated. However, in the pernicious anaemia it will ultimately rest with one's best judgment as to whether or not it is advisable to subject these patients to surgical measures.

Clinical experience teaches us that after removal of the spleen other organs of the reticulo-endothelial system take on a vicarious function and discharge it well. At present we have patients upon whom splenectomy was done fifteen years ago who are enjoying perfect health.

It is our opinion that with an earlier recognition of many of the primary anaemias and the full knowledge of the important role played by a hyperfunctioning spleen in the maintenance of a vicious circle that the removal of the spleen will be resorted to earlier and much more satisfactory results obtained.

In the type of cases reported herewith it is curative and is the only curative measure known today. The results in such cases are marvelous.

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DISCUSSION.

Dr. Carroll W. Allen (New Orleans): My personal experience in surgery of the spleen has been limited to a series of one case, and I therefore do not feel competent to discuss the subject. I have devoted all my time in medicine to developing along the line in which I had plenty of material with which to work, and I have had but one splenectomy in my experience of twenty-seven years. I did the Crile operation and the patient got well.

Dr. J. W. Barksdale (Jackson): Of the first two conditions the doctor mentions I have no knowledge whatever, but I want to congratulate him on his results. With reference to Banti's disease, it is my impression that we have here a primary condition of the spleen, and that unless operation is undertaken relatively early we cannot hope to arrest the sclerotic condition of the liver. The doctor mentions this case as having a known splenic anaemia for ten years, and that cirrhosis was present is undoubted because of the hemorrhage from the stomach and intestines. In cirrhosis of the liver it is not uncommon to get bleeding from the esophageal plexus. The question comes up whether, the cirrhosis having existed for ten years, the spleen might not have been secondarily involved. I believe in those cases more benefit is derived from the Talma-Morrison operation than from splenectomy. The Talma-Morrison operation, while unsatisfactory in some cases, in others yields good results. I would not as a rule advocate splenectomy where there is cirrhosis of ten years' standing, for whenever you get fibrosis you might as well say good-bye so far as effecting any radical change is

concerned, and in that case the Talma-Morrison operation does more good than a splenectomy.

The other two cases I would not have attempted to operate on. I am glad the doctor reported them. We all have had purpural bleeding to deal with to some extent, but I am totally unfamiliar with such cases as he has presented.

Dr. E. M. Holder (Memphis, Tennessee): The recent literature has been prolific in discussions of splenectomy in purpura hemorrhagica. We have had 1,000 cases in Memphis and the results have been very pleasing. Recently we have used calcium chloride in infections of the blood—5 cc. of a 10 percent solution given intravenously, one dose a day for three days. We had a case under observation, a patient who was jaundiced.

The first day the clotting time was eight minutes; the next day after giving him calcium chloride intravenously the laboratory reported that the clotting period was four and a half minutes. In giving calcium chloride one should be sure not to give more than 1 cc. per minute; take five minutes to give 5 cc. When calcium chloride gets out of the vein it produces a reaction, a necrosis that is distressing.

I think the operation of splenectomy for purpura is very pleasing. I would advocate it. His next case, hemolytic jaundice, required more temerity than the first, but the results justified his action—the patient got well. Three successful splenectomies are encouraging. The only thing I am afraid of is that he will do so many that nobody will have any spleen down in that section, and without a spleen a fellow really has no backbone—he is more of a jelly fish than anything else.

In his Banti's disease case I am not in position to say whether splenectomy or the Talma-Robinson operation would be the best—but the patient got well. The Talma-Morrison operation has never been very popular because seven times out of ten you get no result. True, it is comparatively free from risk, but most of the operations are not satisfactory. I think the doctor was surgically correct in taking out the spleen in at least

two cases, and in the other one he got by—probably his surgical judgment being more worthy of praise than the operation.

Dr. Sam H. McLean (Jackson): I have done one Talma-Morrison operation for ascites resulting from cirrhosis of liver. The man is living and well and has never had a recurrence.

Dr. H. A. Gamble (closing): One case had severe diabetes mellitus for ten years, and one splenic anemia for two years. At the time of operation I was not positive whether I was dealing with splenic anemia or cirrhosis of the liver. There was cirrhosis of the liver present, but it did not account for the white blood cell count. Taking into consideration the size of the spleen, the adhesions, and the prompt recovery of the patient—the improvement in general health, in the blood picture, the gain in weight and strength and also the improvement of the diabetic condition, I believe the removal of the spleen was a decided factor in the recovery.

Dr. Holder spoke of people having no spleen. There are certain organs that take on a vicarious function when the spleen is removed so that the spleen is not absolutely necessary.

There are other conditions in which a splenectomy can be done—hemorrhagic jaundice, rupture of the spleen, early myelitic leukemia—in many of these it is often indicated. In a recent compilation Dr. W. J. Mayo has this to say in regard to pernicious anemia—that they have found on going over their cases that operated patients lived two and a half times as long as unoperated cases. I believe splenectomy has a very important field of usefulness in the treatment of this type of case, but it is much better to recognize splenic anemia cases early before cirrhosis of the liver appears. There is no blood picture that is absolutely indicative of splenic anemia. You have leucopenia, a low color index, enlargement of the spleen, gastrointestinal hemorrhages—these four are practically the only things distinctive of splenic anemia. The elimination of the other blood dyscrasias establishes the diagnosis.

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ON TO ATLANTA.

The Southern Medical Association meets this year in Atlanta, November 15-18. The Fulton County Medical Society and the Georgia State Medical Association will serve as hosts and a big time—both scientifically as well as socially—is assured all those who are fortunate enough to attend. It is ten years since last the association met in Atlanta and many changes have come over this progressive city in the interval. The Henry Grady Hotel, in the heart of things, has been selected as headquarters.

The meeting opens Monday the 15th with clinics at the leading hospitals. The convention formally opens Monday night

with an address of welcome and response, and the address of the president by Dr. C. C. Bass of New Orleans. There will be two general sessions on Tuesday the 16th, one in the forenoon and one in the afternoon, consisting of clinics and papers by distinguished visitors in medicine and surgery. In the mornings and afternoons of Wednesday and Thursday the various sections will hold their sessions. From present indications all of these sections are to present an array of most interesting and valuable contributions. Wednesday evening the oration in medicine and the oration in surgery will be given by two physicians of national reputation. Many alumni reunion suppers are also planned for this night and all Tulane men will have an opportunity to renew old acquaintances around the festive board. Make your plans now to be on hand for the big occasion.

The Woman's Auxiliary of the Fulton County medical society are arranging most enjoyable entertainment for the visiting ladies so you have no excuse for leaving the wife at home. For the members a golf tournament and a gun shoot tournament will appeal to many who love the out-of-doors. We wish to congratulate the local committee on their adding to the usual program—trap shooting being the innovation. Some time ago we commented upon the fact that there was far too much confinement at most medical meetings of this sort. It would be far better if the convention lasted throughout the entire week and devoted an entire half-day every day of the meeting to some sort of out-door recreation. This would prevent us from getting stale. And then, too, after we had returned to our homes and work we would feel more as if we had had a real vacation instead of just papers and tobacco smoke.

Not the least interesting feature of this meeting in so far as the readers of this Journal are concerned is the "President's Special" over the Louisville & Nashville railway which leaves New Orleans Sunday afternoon, November 14th, with President

and Mrs. C. C. Bass and the many physicians and their families who will want to travel with them. Our medical confreres from Texas and Mississippi as well as many from Louisiana should join the crowd from New Orleans on this occasion. We feel justly proud of our own Dr. C. C. Bass and we know from present indications that the "President's Special" will make a long, long trail. Maybe it will have to depart in two sections due to the many friends of Dr. Bass who wish to do him honor on the occasion.

Remember. Southern Medical Association. Atlanta. November 15-18. Bring the wife.

DR. FISHBEIN'S VISIT.

Your special attention is called to the approaching visit of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, to Louisiana in the second week of December.

Our President, Dr. Blackshear, and the Journal Committee through its Chairman, Dr. Gessner, have arranged for a series of addresses in Monroe, Shreveport, Alexandria, Lake Charles, Franklin, New Orleans, Covington and Baton Rouge. Part of these addresses will be devoted to interesting subjects as follows:

"The Work of the American Medical Association, "Medical Education of the Public," "Twenty-five Years of Medical Progress," "Business Ethics and Medical Ethics," "Medicine and the Press," "Fads and Quackery."

Some of the addresses will be before the medical fraternities, others before a joint meeting with the public. Most of the details for the above itinerary have been arranged. The profession of Louisiana should take advantage of this opportunity to show by their attendance and interest their appreciations of the efforts of our medical officers to have them properly informed on modern medical questions, which are of the utmost importance to them and to our relations to the public in general.

This is a step for the edification of the doctors, and also of the public.

Let us accord to our distinguished visitor the support and co-operation he deserves by aiding in every manner possible to make the above meeting a success, to attend same and bring along all your friends.

MEDICAL INTELLIGENCE.

In a recent issue of *Time*, the weekly news magazine, we read the following:

"A year ago, in New Orleans, a paper began a column of medical information—how to diaper the baby, what to do before the doctor arrives, the difference between a boil and a carbuncle. The editor wished to be certain that such a column would really help in educating his public in health matters. He dispatched letters to all the medical men in his circulation territory, asking their advice. Not a reply reached him for several days. Then one, the first, came from Dr. Rudolph Matas, than whom there is no greater surgeon in all the South. He approved the newspaper's medical information. It helped pre-educate the physician's patients, and thereby made his work less difficult. The editor might print the letter. He did so, and at once hundreds of approving letters came from the lesser medicos of the neighborhood. Dr. Matas was big enough to break a professional convention."

"The teaching of health information to the public is a serious matter. *People want to know about diseases and how to cure them.* They are vitally interested, and, because they are interested, newspapers tend to print every scrap of medical information which they can secure."

"More and more doctors, of those who have pondered the question, of furnishing medical intelligence to the public, have decided that it is wise to do so. They hold themselves ready for interviews. When a newspaperman, frankly ignorant of medical minutiae, comes to such doctors for some sidelight on a current event, they patiently explain. To them the interview is not a

matter of getting their names into print, of overleaping a confrere's practice. Their sole aim is to make certain that the medical news which the public can digest is accurate."

"As a result of this eagerness of the public—and hence of newspapers—for medical 'news' the 'ethics' of the doctor who will not talk for publication are coming to be regarded in a different light, may, someday, be regarded as Pharisaical."

These five paragraphs from *Time* put the matter so tersely and express the Editor's convictions so clearly that he could not resist the temptation of reprinting them here. Only part of the article is given herewith. The writer mentioned, besides Dr. Matas, such men as Dr. G. A. Soper of the American Society for the Control of Cancer, Dr. R. T. Morris of the New York Postgraduate Medical School and Dr. C. H. Mayo of Rochester, Minn., as being among those ever ready to give the truth to the press when occasion demanded. And this is only as it should be.

At the last annual meeting of the House of Delegates of the Louisiana State Medical Society a resolution was adopted which was to provide for a Public Information Committee, the function of such a body to be that of furnishing to the Sunday papers throughout the State articles of an educational character acquainting the lay reader with the modern advance being made in medicine, with advice as regards cancer, tuberculosis, insanity, venereal diseases, and so forth.

Six months have elapsed since the resolution was adopted but so far as the *Journal* is aware nothing has been done. We doubt even if the Committee has been appointed. When will we awaken to our responsibility to the public? Has not the time arrived when we should cease bewail-

ing the fact that State Medicine is making inroads in our practice and face the facts that we are doing precious little in the way of educating the public along lines of preventive as well as curative medicine. Let medical politics go by the boards. Make organized medicine subservient to the public's welfare. Only in this way can we bridge the gap that now exists between the doctor and the layman.

GAS CASUALTIES.

The Board of Medical Officers appointed by the Director of the U. S. Veterans' Bureau to study the residual effects of war gas expects to complete its studies of chlorine gassing by the first of the year.

The Board which held its first meeting March 9, 1926, is composed of Dr. Allen K. Krause, Member of the Group on Investigation and Research of the Medical Council of the U. S. Veterans' Bureau, and Associate Professor of Medicine at Johns Hopkins University; Lt. Col. Harry L. Gilchrist, M. C., U. S. A., Chief of Research Division, Chemical Warfare Service, U. S. A., and Dr. Philip B. Matz, Chief, Medical Research Sub-division, U. S. Veterans' Bureau.

Records show that approximately 70,000 men were gas casualties of varying degrees of severity during the war, 1843 of which were from chlorine gas. The War Department has made an investigation of the immediate effects of chlorine gassing in over 800 cases, and the present study by the Veterans' Bureau is expected to develop important information pertaining to the residual effects of this gas.

Upon completion of their investigation of chlorine gassing, the Board will commence a survey of the cases resulting from phosgene, mustard and other gases.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

All members of the Orleans Parish Medical Society are requested to notify the office of any change in address.

Our supply of the September, 1925, and April, 1926, issues of the Journal have been exhausted.

We would appreciate very much being advised by any physician who would desire supplying us with these back numbers.

ALUMNI NIGHT AT THE KANSAS CITY FALL CLINICS.

The Kansas City Annual Fall Clinical Conference will convene at the Hotel President, Kansas City, Mo., October 11, 12, 13, 14 and 15, 1926. Wednesday evening, October 13th, has been set aside as "alumni night" and the dinners of the various schools will be held at the Hotel President, 14th and Baltimore, at 7:00 p. m.

U. S. DEPARTMENT OF LABOR, CHILDREN'S BUREAU, WASHINGTON.

A national program for the prevention of maternal mortality and morbidity throughout the United States is outlined by the Children's Bureau of the U. S. Dept. of Labor in a report on maternal mortality made public. Some of the most salient features are as follows:

TREND OF MATERNAL MORTALITY SINCE 1900.

Figures showing the trend of maternal mortality over a 22-year period in the United States, if accepted at their face value, would show an increase in the maternal death rate from 13.3 per 100,000 population in 1900 to 16.9 in 1921, according to the report. However, analysis of various factors affecting these statistics, particularly the campaign for better certification of the causes of death during recent years, would indicate in reality a "very slightly downward trend" since 1900.

Comparison of the United States rates with those of other countries shows that the United States ranks among these having the highest rates, such as New Zealand and Chile. Among the countries having rates less than half that of the United States are Denmark, Finland, Italy, Japan, the Netherlands, Norway, Sweden, and Uruguay.

CAUSES OF MATERNAL MORTALITY.

Analysis of the causes of maternal deaths in this country shows that the most important single cause is puerperal septicemia, due to infection resulting from lack of surgical cleanliness and almost 100 per cent preventable through careful asepsis. Two-fifths of the maternal deaths in the

death-registration area of 1921 were due to septicemia. Among other causes, puerperal albuminuria and convulsions was most important, contributing over one-fourth of the deaths. This cause is preventable through competent medical care during the prenatal and confinement period. Other causes of death included accidents of pregnancy, hemorrhage, accidents of labor.

MATERNAL MORTALITY LARGELY PREVENTABLE.

The preventability of maternal mortality is considered in the light of the analysis of causes and causal factors, by the Children's Bureau report.

"Almost all the mortality from puerperal septicemia is preventable," the report states. "Puerperal septicemia is infectious in origin, and its prevention depends upon the rigorous observance of asepsis. The Australian committee appointed to study the causes of death and invalidity in the Commonwealth states: 'Puerperal septicemia is probably the greatest reproach which any civilized nation can by its own negligence offer to itself. It can be prevented by a degree of care which is not excessive or meticulous, requiring only ordinary intelligence and some careful training.'"

A PREVENTIVE PROGRAM.

The preventive program suggested by the report, in its main outline, follows:

- (1) Regulation of the practice of obstetrics, by requiring a license to practice from both physicians and midwives, by establishing minimum requirements for obtaining such a license, and by defining and prescribing penalties for malpractice.

- (2) Regulation of public and private hospitals and maternity homes through legal provisions governing the establishment of such institutions and requiring that they be licensed and subject to inspection.

- (3) Legislation for the control of venereal diseases including the making of these diseases reportable.

- (4) Requiring that puerperal septicemia be made reportable, as is now the case in a number of States.

- (5) Provision through Governmental or public sources of better facilities for training medical and nursing personnel and more adequate clinics, hospitals, and maternity homes.

- (6) Subsidies in aid of State or local activities by Federal or State governments, as in the United States during the past four years through the Maternity and Infancy Act.

- (7) Educational work directed toward informing mothers of the need of adequate maternity care.

IS INTELLIGENCE INHERITED?

The "Old conclusion that the highest intelligence comes out of stock that is highly developed on both sides" is reached by Grace Allen in a recent study, made for the Eugenics Record Office of the Carnegie Institution, of the families of a group of 49 children showing a high intelligence quotient. The study was undertaken to aid in discovering how far superior intelligence is a family characteristic, and covered race and nationality, age, occupation and education of the parents, rating of the homes, neighborhood conditions, mental status in the families, and fecundity and sex rates.

CORRESPONDENCE COURSE IN MOTHERHOOD.

Prospective mothers may enroll for a course of 15 lessons offered by the Massachusetts State departments of health and education through the State division of university extension, 217 State House, Boston, for a fee of \$4. The topics treated include prenatal care, practical preparations for confinement, care of the baby and of the nursing mother, the sick baby, and weaning. Papers written by the students will be corrected with necessary comments and suggestions by an experienced physicians of the State public health service.

TRAVEL STUDY CLUB OF AMERICAN PHYSICIANS.

At the completion of its recent European Study Tour, the Travel Study Club of American Physicians elected Dr. Fred H. Albee of New York as President, Drs. Edward B. Heckel of Pittsburgh and John P. Lord of Omaha as Vice-Presidents, and Dr. Richard Kovacs of New York as Secretary.

Plans are being prepared for the next study trip, including the Central European countries: Germany, Austria, Czechoslovakia, Hungary and Italy.

BRAZIL'S JAPANESE PROBLEM.

Dr. O. da Fonseca, of the Oswaldo Cruz Institute, at Rio de Janeiro, was a recent visitor to New Orleans. He visited the hospitals and clinics while here and gave all of the institutions high praise for the excellent work he saw going on. Dr. da Fonseca is on his way to Japan to study the various parasitic disease of that country in order to better protect the people of Brazil. The Japanese immigration problem in Brazil is of preventive medicine. Already there are over 40,000 Japanese immigrants in Brazil and many of these bring with them diseases peculiar to their homeland. It is these diseases that Dr. da Fonseca

proposes to study so as to better safeguard the native population of Brazil. He, along with three other European pathologists have been assigned, by the League of Nations, to make this study.

NEW SUPERVISOR FOR PRESBYTERIAN HOSPITAL.

Mr. Joseph Oplatek has been appointed supervisor of properties and equipment of the Presbyterian Hospital of New Orleans. Mr. Oplatek was formerly connected with the Touro Infirmary.

NEWS NOTES.

The Fourth District Medical Society will meet at Shreveport on the afternoon and evening of Tuesday, October 5th, the evening session being held jointly with the Shreveport Medical Society. A good meeting and large attendance is anticipated, among those expected being Dr. S. M. Blackshear, of New Orleans, President of the L. S. M. S. Dr. Walter B. Hunter of Coushatta is president and Dr. C. E. Hamner of Shreveport is the secretary.

Minden, Webster Parish, reports good progress on the hospital being erected there.

The North Louisiana Sanitarium, Shreveport, will soon begin the erection of an addition of approximately twenty-five rooms, to relieve the crowded condition of the present building, which was completed only about two years ago.

Dr. Ernst A. Schmidt, a graduate of the University of Heidelberg, but lately of Denver, Colorado, has recently arrived, to take charge of the X-ray and radium departments of the North Louisiana Sanitarium.

The Shreveport Charity Hospital now has, in the course of erection, two fireproof wards, to replace the wards which were destroyed by fire about four months ago.

Herman Goodman, M. D., of New York City, had the unique distinction of speaking before two entirely different organizations on a subject allied to both within one week. On September 8th, the doctor spoke before the 20th annual convention of the Illuminating Engineering Society on Light in Medicine and Surgery; and Friday of the same week before the convention of the American Electrotherapeutic Association on the Physics and Biology of Light in Dermatology. The proposal was made for co-operation between the two organizations.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

MISSISSIPPI.

The regular meeting of the Tate County Medical Society was held August 10 at Tyro, Mississippi, with President H. L. Murphey, of Arkabutlar, in the chair. Papers were read by Drs. E. L. Collins, J. C. Culley, B. S. Guyton, E. S. Bramlett, and Wm. R. Gilbert. The latter presented a very interesting case of microtia in a baby a few months of age.

The program announced for the meeting on September 14, held in Senatobia, was as follows:

"Eclampsia," by Dr. H. L. Murphey.

"Summer Diarrhea of Children," by Dr. W. D. Smith.

"Acute Nephritis," by Dr. H. F. Byers.

"Symptoms of Nephritis," by Dr. J. W. Thompson.

"Treatment of Nephritis," by Dr. Wm. R. Gilbert.

"Symptoms and Diagnosis of Chronic Pyelitis," by Dr. M. M. Powell.

"Treatment of Pyelitis," by Dr. G. H. McCain.

Discussions to be opened by Dr. W. D. Smith.

Dr. J. Sidney Eason, health officer of Tate county, reports vaccination against typhoid is being carried out throughout the county. He is also renewing his efforts to better sanitary conditions and states than when he gave up the office four years ago there was eighty per cent of sanitary toilets throughout the county, but upon resuming the office he finds now less than two per cent. He is, therefore, carrying on an intensive campaign to get this condition improved.

Dr. J. D. Donald, of Hattiesburg, died August 26 after having been in poor health for two years. Dr. Donald was one of the prominent physicians of Mississippi and in addition to having been a popular and successful practitioner he showed his good citizenship by having served in the State Legislature for several years. During the time of his office as legislator, he gave considerable aid to the campaign then under way to aid the State Board of Health in its work for better sanitation throughout the State.

The regular meeting of the South Mississippi Medical Society was held September 9 at the South Mississippi Charity Hospital, Laurel, Mississippi, with the following program:

"Infant Feeding," Dr. G. F. Riley, Meridian. Discussion by Dr. T. T. Batson, Hattiesburg, and Dr. J. S. Gatlin, Laurel.

"Diagnosis and Treatment of Acidosis," Dr. J. C. Butler, Laurel. Discussion by Dr. M. L. McKinnon, Laurel, and Dr. G. D. Mason, Lumberton.

"Diabetes Mellitus," Dr. G. W. F. Rembert, Jackson. Discussion by Dr. J. B. Jarvis, Laurel, and Dr. C. R. Garraway, Laurel.

"Diagnosis and Treatment of Typhoid Fever," Dr. S. E. Bethea, Hattiesburg. Discussion by Dr. H. C. McLeod, Hattiesburg, and Dr. T. E. Ross, Sr. Hattiesburg.

"Entamebiasis," Dr. S. H. Mixon, Laurel. Discussion by Dr. C. C. Hightower, Hattiesburg, and Dr. T. E. Ross, Jr., Hattiesburg.

"Diagnosis and Treatment of Lobar Pneumonia," Dr. E. N. Blount, Bassfield. Discussion by Dr. J. R. Kittrell, Laurel, and Dr. N. B. Smith, Ellisville.

"Eclampsia," Dr. L. L. Polk, Purvis. Discussion by Dr. C. M. Davis, Laurel, and Dr. R. H. Foster, Laurel.

"Technic of Gall Bladder Pictures," Dr. H. G. McCormick, Laurel. Discussion by Dr. W. W. Crawford, Hattiesburg, and Dr. W. N. Blount, Laurel.

At the conclusion of the scientific program a banquet was served at the Laurel Y. W. C. A.

Forrest County Health Department, with the city and civic organizations co-operating, have declared war on mosquitoes. They are not satisfied to control malaria only, but are determined to abate the nuisance.

The doctors are co-operating by filing reports showing infective areas. They are checking their clinical diagnosis with laboratory examinations.

Mr. George Parker, director of malarial control, and the Gorgas Memorial Institute are rendering valuable assistance by furnishing literature for publication.

Dr. R. C. Molloy, of Birmingham, has been spending a few weeks at the Mississippi State Sanatorium taking special work on disease of the chest.

Dr. May F. Jones of the Sanatorium Staff recently returned from the Trudeau School of Tuberculosis at Saranac Lake, New York.

Dr. Henry Boswell will attend the Tuberculosis Conference in Washington this fall, representing the Sanatorium.

The Mississippi District Nurses Association No. 1 met at the Sanatorium on September 8. There was a good number of nurses present.

SOUTHERN CONFERENCE ON TUBERCULOSIS.

The above conference will be held in Washington, D. C., Hotel Mayflower, October 2, 1926, with meetings at 10:00 a. m. and 3:00 p. m. Those interested therein should get in communication with Dr. L. B. McBrayer, President, Southern Pines, N. C., or Miss Bertha Clement, Secretary, 2019 Avenue F, Birmingham, Ala. The annual membership fee is one dollar.

The International Conference on Tuberculosis convenes immediately preceding the Southern Tuberculosis Conference, and the National Tuberculosis Association convenes on the following Monday.

The program is built around the child. Dr. Joseph Murphy, chief medical inspector of public schools, Washington, D. C., will demonstrate the proper examination of a child and describe a child clinic. One other physician will talk on the diagnosis of tuberculosis in the child, and probably interpret some X-ray plates of the chest of children. Two or three others will develop sociologic phases of child health.

Dr. S. B. Boykin, the new superintendent of the State Charity Hospital, Jackson, Mississippi, who succeeded Dr. David Walley, announces his complete staff as follows:

Dr. Julius Crisler, president of the staff.

Surgical staff: Drs. J. P. Wall, chief; J. W. Barksdale, A. E. Gordon, John McClain, and Joe Armstrong.

Medical staff: Drs. G. W. F. Rembert, chief; John McIntosh, J. W. Ware.

Pediatrics: Dr. N. C. Wormack.

Ear, Eye, Nose, Throat: Drs. E. L. Posey and George Atkins.

Geneto-Urinary: Drs. Wallace Britt and Frank Alstyne.

Eye service: Dr. W. S. Simms.

Dr. G. S. Ramsey is assistant superintendent and Miss Evalyne Weserhoff superintendent of nurses.

During the first week of September Dr. Boykin entertained his staff and members of the Board of Trustees of the State Charity Hospital at a dinner at the Edwards Hotel.

At the staff meeting of Vicksburg Sanitarium, September 10, the following cases were discussed:

1. Early Lymphatic Leukemia, Dr. A. Street.
2. Typhoid Fever, Dr. G. M. Street.
3. Occlusion of Ureters by Uterine Fibroid—Hydronephrosis, Dr. J. A. K. Birchett, Jr.
4. Occlusion of Ureters by Uterine Fibroid—Pyelonephrosis—Diabetes Mellitus, Dr. L. J. Clark.
5. Impression of the St. Louis Hospitals, Dr. E. H. Jones.

Dr. H. R. Shands resumed work in his office early in September after a month's visit to clinics in New York.

Dr. E. L. Posey spent the month of August in the north and northwest.

Dr. G. W. F. Rembert spent a month at Eastern clinics during August.

Dr. N. C. Womack spent a week's vacation on the Gulf coast.

Dr. J. S. Ullman, Natchez, is visiting clinics in Boston and New York. He expects to be absent from his office during the month of October.

PERIODIC HEALTH EXAMINATION.

The State Board of Health has recently published a form for periodic health examination which it is distributing, free of charge, to the physicians of the State. This form, though somewhat simplified, is arranged along the lines of that published by the American Medical Association. The doctors of Mississippi need not be told of the advantages or of the necessity of making periodic health examinations.

The laity, generally, is cognizant of the necessity of having their teeth examined once or twice a year, but few, if any, ever seem to think that there may be other organs in their body that need examination at regular intervals.

Many doctors are in the habit, when they make a periodic health examination, of arranging with the patient to remind them again in the course of six months or a year that they are due for another examination. This system makes a very favorable impression on the patient and, of course, is likely to be a means of retaining the friendship and patronage of a patient.

These examinations are a benefit to the physician, particularly where the blank is filled out in a painstaking manner. It gets the physician into the habit of making a regular and systematic examination. The records of examinations naturally cause a physician to be more thorough in his work and to remember more readily what his examination has disclosed. Of course, records are not of much value to a physician unless they are properly filed and are readily accessible to him.

BOOK REVIEWS

Pediatrics: By various authors. Ed. by Isaac A. Abt, M. D. V. 8 and Index. Philadelphia. W. B. Saunders Co. 1926.

Volume eight completes the set of this work on pediatrics compiled by Dr. Abt. It takes up the diseases of the skin, diseases of the ear, of the eye, tumors of infants and children, the parasitic diseases and contains a monographic treatise on the planning, scope and construction of hospitals for infants and children. Plans for such hospitals are given in detail, taken from some of our larger children's hospitals in this country as well as abroad. The functions of such hospitals are discussed, together with the duties of governing boards, institutional management, in short, every phase of hospital construction, equipment and management is dealt with in detail.

The chapter on medico-legal questions forms an important part of this volume and is written by an authority on the subject.

A general desk index of the entire work accompanies this last volume.

In this work Dr. Abt has given to the pediatric world an enduring reference library with a bibliography complete on every subject that confronts the pediatricist.

L. VON MEYSENBUG, M. D.

Hydrogen Ion Concentration of the Blood in Health and Disease: By J. Harold Austin. Baltimore. Williams and Wilkins. 1926.

This monograph, which constitutes volume viii of the series of "Medicine Monographs," published by Williams and Wilkins, is a reprint of a review of this subject which appeared in the review Journal "Medicine" for August, 1925.

The book is divided into four chapters of which the first treats of the general physical chemical principles which are fundamental to an understanding of the subject of hydrogen ion concentration.

Chapter II deals with normal pH values, chapter III with the pH of plasma in disease, while chapter IV contains a critical discussion of the principles involved in the methods used for the determination of pH of blood and other body fluids; no directions for laboratory work are included and for information on this topic the reader is referred to Clark's well known monograph.

At a time when new facts regarding the importance of the acid base equilibrium of the body are being revealed by workers in almost every

branch of the medical sciences, this volume, written by two of the most active investigators in this field, should prove very useful to anyone who may desire to obtain authoritative information on the subject.

Chapter III, entitled "pH of Plasma in Disease," will be found particularly valuable by the clinical worker who may be interested in this line, as it contains a critical review of all recent work of the subject. An excellent bibliography is included at the end of the text.

W. DENIS, M. D.

Treatment of Common Disorders of Digestion: By John L. Cantor, M. D. St. Louis. C. V. Mosby Co. 1924.

The concise volume covers the medical treatment of the more prominent functional and diseased conditions of the digestive tract. The book, in this way, represents a very excellent ready reference for the practitioner. The simpler and better methods of treatment now being applied to certain physical and nervous states of the gastro-intestinal tract are given a prominent consideration. The management of asthenia and ptosis, symptoms attributed to neurasthenia, constipation and other dysfunctions is correctly emphasized and very clearly outlined. The chapters on the diagnosis of the spastic colon and the proper dietary treatment of this frequently overlooked cause of constipation, so much abused with cathartics, deserves favorable comment and recommendations. Kantor's researches on the mobile cecum and redundant colon so beautifully illustrated in the text, have unraveled some of the more remote causes of vomiting and other reflex gastric and intestinal symptoms. The chapters on gastric and duodenal ulcer and the chapter on gallbladder disease, while fully covering these subjects, do not compare in interest with the newer material presented in the other parts of the volume.

The book is purposely limited in its scope, not treating at all of many intrinsic disturbances seen in the every-day practice on the digestive canal.

DANIEL N. SILVERMAN, M. D.

Surgery of the Spleen: By Eugene H. Pool, M. D., and Ralph J. Stillman, M. D. New York, D. Appleton & Co. 1923.

This volume covers, in its entirety, the surgery of the spleen. It begins with an introduction—giving the historical data—and then takes up successively in each chapter the anatomy (em-

bryology, anomalies and histology); the physiology and pathology; the examination (physical and clinical); the classification of splenomegaly; splenomegaly associated with diseases of the blood; splenomegaly and diseases of the blood; cysts, neoplasms and traumatic lesions and, finally, operative procedures. A complete bibliography is appended to each chapter.

The classification of splenomegaly is lengthy, has no uniform basis and is of little use. Only a brief discussion of essential thrombocytopenia is entered into. This is unfortunate, as it is in this particular field that splenic surgery has achieved its most brilliant results.

The monographic form for surgical contribution should be more generally adopted as in this way the subject can be more exhaustively treated. This volume is the beginning of such an attempt and even though the authors acknowledge the limitations and deficiencies of their subject, the reader is totally unaware of it, so thoroughly has this subject been presented.

This monograph though not of value to the student, well merits a place in the library of the internist and surgeon.

PAUL G. LACROIX.

A Text-Book of Psychology for Nurses: By Maude B. Muse. Illustrated. Philadelphia and London, W. B. Saunders Company. 1925.

In preparing this valuable text-book Miss Muse has had in mind the fact that nurses need a knowledge of psychology just as much as do teachers and social workers; in fact their need is probably greater than the members of most other professions. She has presented in a simple way such phases of modern reaction psychology as should prove useful to the nurse, and has shown how the laws and principles of psychology may be applied to nursing problems. The work will serve a useful purpose as a text-book in schools of nursing and as a reference book for courses in nursing education in the universities as well as a book for home study and personal reading for graduate nurses.

FRANCIS M. MUNSON, M. D.

The Transplantation of Tissues: By Harold Neuhoef, M. D. New York, D. Appleton & Co. 1923.

This reviewer must confess to a distinct preference for the monograph as a means of conveying scientific knowledge. Many reasons might be given but two will suffice. First, a monograph may be so limited in its scope that it falls entirely within the limits of the interests and knowl-

edge of the author. Second, to quote one of our late fellows, the small volumes rest much comfortably on the reader's belly.

The transplantation of tissues is one of the most fascinating and least understood subjects related to surgery. Dr. Neuhoef has undertaken a discussion of both the purely scientific and the clinical aspects of the problem. A complete and detailed consideration of all the research reported would be, of course, too bulky and confusing for most readers. However, all the more notable contributions are analyzed and the more important theories discussed. Known facts are carefully separated from unproven speculations. Fundamental principles indications for transplantation of tissues, and prognosis are admirably and conservatively stated. All other considerations are properly made subsidiary to the prime object of all surgery, to improve the condition of the patient. It is interesting to know that probably all free grafts are replaced eventually by the lost tissue, but the important thing is to know that in spite of this, deformities may be permanently corrected.

Technique is discussed briefly and many valuable suggestions will be found. The material is conveniently grouped and indexed. After an admirable discussion of general principles, the various tissue groups are considered separately. For those who desire to go more deeply into the subject, an extensive bibliography is appended to each chapter.

The author's style is quite readable, and his language notably precise. He maintains the detached and skeptical attitude of the true scientist, but manages to combine with it, the pragmatic philosophy of the practical surgeon. The essential point is, Will it work? He expresses his own opinions freely, but with restraint. Sensation mongers will find no comfort in the final chapter, *The Transplantations of Organs*.

This is an authoritative treatise, a notable contribution to surgical literature.

J. D. RIVES, M. D.

Diseases of the Skin: By Richard L. Sutton, M. D., LL.D., F. R. S. (Edin.). St. Louis, C. V. Mosby Company. 1926.

The sixth edition of *Diseases of the Skin*, by Dr. Sutton, embodies the best of his former editions with a marked increase in illustrations, a collection of pathological pictures chosen from the best this branch of medicine affords, a more extensive treatise of the parasitic infections and allergies, a very modern, conservative system of therapy.

Each disease has a very complete but concise presentation with extensive bibliographies; giving one the meat of the nut, well illustrated, and yet so briefly that the reader does not tire.

The student, practitioner, and specialist alike will find this book a ready, up-to-date, reference in the subject.

M. T. VAN STUDDIFORD, M. D.

Clinical Pediatrics: By John Lovett Morse, A. M., M. D. Phil. and Lon., W. B. Saunders Co. 1926.

Dr. Morse in his preface says that the book was written primarily for his own amusement, and if this be so, further evidence of his keen sense of humor is furnished those of us who have known and studied under him. Elsewhere in the text the author admits to a certain degree of old-fashionedness; we feel, however, that he does himself an injustice in choosing an unfortunate, if modest, word, and our interpretation is that he displays in his writing the same good, hard common sense that he does in his practice and his lectures.

He admits further, that he has written only about those disease with which he has had personal experience. The fact that the book comprises a volume of over 800 pages and deals with every condition that the pediatricist is apt to meet with, testifies to his far-reaching knowledge and experience. That the book is readable is evidenced by such statements as: "If people would behave themselves they would not have syphilis."

Throughout the work there is an undercurrent of thought directed toward the practical, towards methods and procedures which can be carried out in the home without elaborate apparatus and there is mute evidence of contempt for superscientific laboratory tests and therapeutic ballyhoo.

In the chapter on the prescribing of modified milk, Dr. Morse adheres to Rotch's percentage method of calculation of formulae. For the practitioner this method is somewhat complicated and is falling more and more into disuse.

There are many illustrations throughout the book, but there is no bibliography and very few references. The work could not be used as a teaching text, but for the doctor who wants to know how to treat his pediatric cases, there is a fund of valuable information gathered together in this one volume which, for clinical use, is without a rival.

L. VON MEYSENBUG, M. D.

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DYSCRASIAS OF THE BLOOD.*

WILLIAM J. MAYO, M. D.,

ROCHESTER, MINNESOTA.

"Picturesque dyscrasia" is a perfectly good term, although in the vocabulary of pathology it belongs chronologically with "humor", and suggests how little we have known, except in a general way, of the blood plasma, the fluid in which float the microscopically visible cellular elements of the blood. The blood plasma lies in the ultramicroscopic field of which we have only of late, through physico-chemical means, acquired reliable knowledge.

It is my purpose to discuss briefly certain fundamental changes in the blood plasma due to the excessive accumulation of catabolic substances, the result of normal as well as of abnormal metabolism, which must be eliminated from the body. The chemical processes of man, like those of the lower animals, depend on an alkalinity of the fluids of the body so slight that it is difficult to give a scientific formula for them. The difference between the neutrality and the alkalinity of the body fluids is comparable to the difference between the neutrality of distilled water and the alkalinity of tap water. As a condition of the latter comparison, the distilled water must be fresh and not exposed to the air, from which it readily absorbs sufficient carbon dioxid to give it a slight acid reaction. We

speak of acidosis as though the body becomes acid, but this does not occur. Acidosis is simply a reduction of the normal slight alkalinity of the body fluids which, during life, is never entirely overcome. So far as I know, no gland in the body secretes an acid. One thinks of the hydrochloric acid of the gastric juice, but, as shown by Carlson and others, this hydrochloric acid is not a true secretion. The chemical materials from which the acid is formed are brought together on the surface of the acini of the glands. The acidity of the contents of the large intestine is due to acid-forming bacteria in ingested food material; the normal secretions of the large intestine are alkaline. In the body the exchange of electrons in the atom which alters the composition of the molecule takes place only in alkaline saline solution.

We have inherited from our ancestors of the sea the need for sodium chlorid and a trace of iodine, both necessary for those chemical changes on which vital energy depends. Both sodium chlorid and iodine are very soluble in water, and in certain regions of various countries subject to heavy rainfall have been completely washed from the soil. It is interesting to note that the brown discolorations on crude rock-salt are due to iodine. That iodine is necessary to the healthful growth of cattle was proved when the attempt was made, with deleterious effect, to replace the crude salt in their diet with refined salt which contained no iodine. The relation of iodine to health has been so thoroughly worked out by Kendall in his

*Read before the Louisiana State Medical Society, Monroe, April 15-17th, 1926.

discovery of thyroxin that there is no need to comment further upon it.

By a study of the excretory functions of the body one can obtain a fairly clear idea of nature's methods whereby the normal condition of the blood is maintained. Of the excretory functions of the body, the urinary, the intestinal, and the biliary functions are three of the most important. As might be expected, any interference with the elimination of catabolic substances which prolongs their retention in the blood leads to serious changes in the blood plasma. In many respects the changes resulting from interference with elimination are similar, although the seat of obstruction may vary. In a general way, the alkali-acid balance undergoes change. The carbon dioxid combining-power goes up, with manifestations of alkalosis, or down, with acidosis, the chlorid concentration of the blood is disturbed, and nitrogenous products, urea and creatinin, are formed, or retained, in excess. In all these manifestations dehydration or edema, anemia, and inability to metabolize food properly very soon become apparent.

INTERFERENCE WITH RENAL FUNCTION.

If there is a sixth sense, it must be that form of intuition which we call scientific imagination, the building of images based on known facts from which deductions can be made, and on experimental data from which equally important inductions can be drawn and with which new images can be formed. This remarkable mental quality is well shown in the contributions of Bright, who in 1828, working with little more than reagents, mainly nitric acid, gave a lucid description of acute nephritis and edema, a candle, a tablespoon, and a few chemical its effect on urinary excretion. Ten years later he gave an equally lucid description of chronic granular kidney and the condition which we know today as the cardio-renal complex, and the effect of this disease on urinary excretion.

The function of the kidney can be briefly described as filtration of non-threshold

bodies, such as the products of nitrogenous metabolism, of which urea is the most important, and the elimination of excess chlorids and water. According to Cushny, this process of filtration and elimination takes place through the glomeruli with re-absorption of threshold bodies through the tubules. Threshold bodies are those substances, like sugar, which are normally to be found in the blood and which, only when in excess of a certain concentration, flow over and are excreted with the urine. In acute toxic conditions, for instance scarlatina, the filtration function of the kidney is greatly retarded, and the chlorids and excess water in the blood are deposited in the tissues, especially in the cellular spaces, giving rise to edema.

In certain forms of chronic nephritis in which the kidney is granular and contracted, the water and the chlorids are eliminated readily, but there is interference with the filtration of the non-threshold body, urea, which is always present in the blood and urine. The amount of urea in the blood is consequently increased. The specific gravity of the urine becomes low, since the kidneys are unable to concentrate the urine normally, and an increased amount of urinary fluids is necessary in order to eliminate the urea and other molecular metabolites. The cause of these phenomena is toxic agents filtered from the blood stream which act on the renal tissues and blood vessels, especially the glomeruli.

The term nephrosis, an unhappy one, has been given to toxic degenerations affecting the renal tubules, characterized by albuminuria, with or without edema, and without retention of urea or increase in blood pressure.

These forms of renal disease are not necessarily connected with infections, but, given interference with urinary drainage, such as stricture of the urethra or ureters, stones, or prostatic enlargement, the stage is set for most serious dyscrasias which require surgical treatment. Cabot points out

that an infected catheter introduced into a normal bladder will not cause infection, but that when interference with drainage exists, resulting in retention, infection promptly takes place. When some form of nephritis is already in existence, the manifestations resulting from interference with drainage develop rapidly, and death ensues quickly. If the kidneys are normal and the interference with drainage develops slowly, the dyscrasia is sometimes so insidious as to escape recognition until a late stage. The blood urea, a catabolite of protein origin, derived usually from tissue and deposit proteins rather than from those in the food, gradually rises from a normal of 26 mg. for each 100 cc. of blood to a high point, perhaps 300 mg. or more, the creatinin rises from a normal of 2 mg. in each 100 cc. of blood to 10 mg. or more; the action of the heart becomes weak, and the patient develops anemia and general prostration ending in death.

Formerly hyperdistention of the bladder, produced by slowly increasing retention of urine and causing a palpable suprapubic tumor, was suddenly relieved by the catheter; the frequent results were fulminating infections, hemorrhage into the bladder, and death from acute uremia. Today hyperdistention of the bladder is relieved by emptying the bladder slowly under counterpressure in the course of a week. The excess urea is eliminated by large quantities of normal solution of sodium chlorid, best given intravenously, a liter two or three times a day. In addition, a proper diet containing digestible carbohydrates particularly, aided if necessary by the intravenous injection of 10 per cent solution of glucose, as advised by Matas, will, in two weeks, put even desperately ill patients in condition for successful surgical operation, such as prostatectomy, for the correction of the interference with urinary drainage.

The remarkable results which have been brought about in the surgical treatment of

mechanical disturbances of the urinary function as the result of the investigations of Braasch, Bumpus, and Crenshaw, and the extraordinary reduction in mortality following operations for enlarged prostate, shown by Hunt and Walters, are good examples of the application of physicochemistry to the human body. In 1925, Hunt and Walters performed prostatectomy in 213 consecutive cases with only three deaths.

INTERFERENCE WITH INTESTINAL FUNCTION.

The relation of physicochemistry to the dyscrasias which result from various forms of interference with the action of the intestinal tract can be dramatically illustrated by the treatment of the so-called high intestinal obstructions, whether the obstruction is mechanical or belongs to that class of phenomena, not well understood, called variously acute dilatation of the stomach and gastromesenteric ileus. In these conditions there is interference with the normal acid-producing mechanism of the body, with reduction of the amount of acid and a relative increase of alkalinity resulting in alkalosis. Alkalosis also often occurs following surgical operation and in the course of diseases, such as typhoid fever, which require medical treatment, and often, if not usually, causes death.

The heat and energy of the body are most commonly and cheaply produced by carbohydrates used as sugar in the form of glucose ($C_6H_{12}O_6$) and stored in the liver as glycogen ($C_6H_{10}O_5$), which is a chemically dehydrated form of glucose. Still further excess of glucose is converted into fat and deposited in various regions in the body as a reserve. The sugar is burned without ash and the carbon dioxide is passed off through the lungs. The fats contain a very small amount of oxygen, and consequently are slow to burn.

Protein is composed of carbon, hydrogen, oxygen, and nitrogen, with a little sulphur, the nitrogen being necessary to give form to the tissues and facilitate the deposition of other elements, such as calcium. From

58 to 60 per cent of ingested protein is convertible into sugar, but the nitrogen is not combustible and must be passed off, largely as urea. In alkalosis following high intestinal obstruction, the body proteins are broken down, with a resulting increase and retention of urea. When the blood urea goes above 125 mg. to each 100 cc. of blood, the condition of the patient becomes serious. The creatinin rises from the normal to 8 mg. or more for each 100 cc. of blood. There is also marked dehydration due largely to the vomiting which is so marked a feature. It must be borne in mind that 75 per cent of the body is composed of water or complex aqueous combinations and this reduction of body fluids seriously interferes with the chemistry of the body.

Haden and Orr, and Brown and his associates have pointed out that in high intestinal obstruction there is a steady decline of the blood chlorid from a normal between 560 and 650 mg. for each 100 cc. of blood to 300 mg. or less. Even more striking, as shown by the van Slyke method, is the gradual increase in the carbon dioxid combining-power of the blood plasma, from a normal of between 56 and 65 per cent by volume to above 100, and often to 150 or more. In many instances tetany results. In fourteen cases of tetany studied in the clinic, the lowest carbon dioxid combining-power was 88. In all the others it was above 100, and in one, 160.

While jejunostomy in a number of cases has proved to be a fairly reliable remedy in high intestinal obstruction of mechanical origin, the intravenous introduction, as advocated by Dixon, of large quantities of 1 per cent chlorid of sodium solution with 10 per cent glucose (a liter two or three times in twenty-four hours) will restore the blood chlorids in a surprisingly short time, and reduce the area. By furnishing glucose to maintain heat and energy, of which 75 per cent of the total is consumed in vegetative processes such as the action of the heart, lungs, and digestive tract, many patients

may be restored to a condition which permits successful surgical operation.

Walters has shown, however, that alkalosis is not due alone to decrease of the blood chlorids. He was able in cases of high intestinal obstruction and of duodenal fistula to restore the blood chlorid by intravenous injections of concentrated solution of sodium chlorid, without relief of the alkalosis; he found too that water alone was of no value. Only with a 1 per cent solution of sodium chlorid did this form of intravenous therapy give the desired results. Eusterman, McVicar and Weir, by these methods of rehabilitation, have enabled Balfour to operate on 672 consecutive patients with serious disease of the stomach and duodenum with a mortality rate of 2 (2.08) per cent. 181 of these operations were resections, chiefly for carcinoma.

INTERFERENCE WITH BILIARY FUNCTION.

Bile in the intestinal tract is necessary to life. For a long time it was believed that bile was merely an excretion, but it has been proved that the absence of bile from the intestinal tract for long periods results in slow, progressive deterioration and death. Interference with the action of the biliary tract has been accurately studied in relation to the cholemic states, the result of biliary obstruction.

The circulation of bile in the blood, as in jaundice, permits the bile-acids and pigments to combine with the blood calcium. Within a few weeks, in susceptible persons, the combining power of the bile-acids and pigments is developed to such a point as to result in a dyscrasia which may lead to purpuric manifestations and frequently to the development of that slight reduction of alkalinity designated as acidosis.

The normal blood plasma contains prothrombin, which tends to clot, and anti-thrombin, which prevents the prothrombin from clotting. When blood is shed, the thromboplastin of the tissue juices unites with the antithrombin, and the soft clot of thrombin is the result. The blood platelets

are next deposited in the clot, and they make it more fibrous and cause it to contract. Later, calcium is deposited in the clot, and makes the thrombus permanent.

In the cholemic state, exhaustion of the blood calcium leads to failure of permanent clotting. The introduction intravenously of chlorid of calcium, in the average case, as shown by Walters, will promptly restore the blood to the normal state and permit operation to be performed safely for the relief of obstructive jaundice in patients who either would be looked on as unable to undergo operation or would die from hemorrhage or its results following operation. With proper methods of rehabilitation the death rate from this cause has been reduced to less than 1 per cent. A carbohydrate diet with large quantities of fluid to wash the bile out of the blood is necessary. Fluids may be given intravenously with glucose, if necessary.

If acidosis exists, a solution of bicarbonate of soda rather than of sodium chlorid should be used. In many cases transfusions of blood are needed in the process of rehabilitation.

DISCUSSION.

Dr. W. D. Haggard (Nashville): I think that the paper we have just listened to is more replete with sound physiological ideas than most any one I have heard in a long time. I believe that we are in the era of biochemistry and that our advances are going to be along the lines that have been indicated in the thesis. We have passed the pathological era; we have gotten the mechanical end of surgical practice highly perfected and crystallized, and now you will recognize that the trend of this paper is in the recognition of those states which militate against the life of the patient and even offers salvation by purely mechanical surgical means.

That is notoriously true of the enlarged prostate. You can recollect when the equally good surgery was done upon these desperately bad risks without proper preparation with enormous mortality, at times approximately fifty per cent. Now we recognize that it is no surgical anatomical sleight of hand maneuver at all that cures these people and saves them, but it is a recognition of their

inhibitions, physiological inhibitions and a restoration of the status quo.

Now that is done by the prolonged preparation of these individuals. They are just on the narrow, delicate margin that they can scarcely go about, with a high nitrogen urea content, and an operation under those circumstances is fraught with very dangerous consequences. So the preparation of the patient and the recognition of his need for elimination and the measurement of his blood chemistry is extremely essential.

The utilization of fluids that would seem so fundamental we have long neglected, so that now the elderly man with enlarged prostate, even if he allows himself to go to the condition of obstruction, which is not only vesicle but is secretory in the sense that the back pressure interferes with the secretion and therefore gives the patient an autointoxication that is miserable; so that with the modern operation for prostatectomy as so beautifully carried out by Hunt in the clinic where the whole thing is visualized and the patient is in a condition of physiological balance it is attended, therefore, with this very highly satisfactory mortality rate.

In dealing with the liver and its dysfunctions and insufficiencies, one must recognize too the importance of determining just what the liver is doing and particularly what it is not doing. In the jaundice state, which of course is one of the most grave, the most easily appreciated defects from normality, one can recognize at once the character of the condition. We have known so long of the great danger of bleeding from a simple incision in the jaundice patient that we were most grateful to Walters for introducing the technic of preparing these people against postoperative bleeding. The intravenous injection of ten cc. of a five per cent calcium chloride solution on three successive days will increase the blood clotting property very materially, and if that is supplemented by a transfusion one can then do the necessary operation for, we will say, common duct obstruction by stone with a very considerable assurance that the patient will not bleed to death as we have formerly seen them, most unfortunately.

It is important, however, to watch the blood clotting power of the blood every day because if one doesn't it is not uncommon after the immediate danger apparently is over to have a secondary hemorrhage that may be fatal, so that under those circumstances another course of calcium chloride plus transfusion will suffice.

In this connection and in conclusion, Mr. Chairman, I would like to draw attention to the analogy between the care of obstruction of the liver by

stone with obstruction of the urinary outflow by the enlarged prostate. We have learned the wisdom of doing the prostatic operation in two stages if necessary, and I think that it is equally important in certain cases of obstruction by stone, having prepared the patient as has been indicated, to go in and do the simplest possible operation under local anesthesia of draining the gall bladder and leaving the stone in the common duct alone. Then at the end of some two or three weeks when the body has been detoxicated, the jaundice is gone, the collemia has faded away, and the liver has stopped its strike and gone back to work, one can then go back and take out the stone with a very great addition to the safety and wellbeing of the patient. (Applause.)

Dr. A. Street (Vicksburg, Miss.): I just wanted to make one or two points in regard to Dr. Mayo's paper. Dr. Mayo mentioned the giving of the ten per cent glucose along with the salt in these very sick case. We have been giving glucose in these sick cases for some time. Formerly we used to have a great many severe reactions. Since the advent of insulin we have added the proper amount of insulin which it has been demonstrated will balance that glucose, and it has been remarkable the way reactions have disappeared. We don't seem to have them any more at all.

Now Dr. Mayo and Dr. Haggard mentioned the rehabilitation of prospective surgical cases. Dr. Mayo also mentioned the application of the same measures in medical cases. I have noticed in the recent epidemic of flu that it was not unusual for a case of pneumonia to come in with a vomiting which resembled very much the vomiting we have in high intestinal obstruction, and had the illness, of course, very commonly associated with severe pneumonia. Now it has been known for a long time, for years and years, that the blood chlorides are diminished in the early active stage of pneumonia when the exudate is going into the lung and our observations on these cases show a very marked diminution in the blood chlorides.

The use in these cases of solution of glucose in salt put into the vein would seem to be contraindicated because we have formerly thought that relieving the pulmonary congestion by phlebotomy was more indicated. But I have used glucose and salt with insulin to balance in a good many cases this year, cases that were vomiting, with enormous distension and which had no evidence of pulmonary edema, which is the case with many of these patchy flu pneumonias. They very often have very little tendency early in the disease to pulmonary edema. But I have been very much surprised to see enormous improvement with disappearance of the vomiting very promptly following intravenous glucose and improvement in the

tympanites, and I think that I have saved several lives absolutely that would otherwise have been lost.

Of course, everyone knows how applicable these rehabilitating measures that we are talking about are in the vomiting of pregnancy where we have a very comparable condition, diminution of chlorides and interference with sugar metabolism with consequent dehydration and extreme illness. We have been handling the vomiting of pregnancy with glucose, salt and insulin very successfully. (Applause.)

Dr. Mayo (in closing): I have nothing to add in closing other than to call attention to the valuable suggestions made by Dr. Street and to the fact that we who have been long in practice should be very careful indeed to work with the men who are young in medicine. Association with the young men in the hospital has been of the greatest value to me. I have trained my young house officers and fellows to feel that I want them to accept me as their equal and make suggestions to me, and we talk all matters over freely. The scars on a man's soul, which we call experience, come from the deep remembrance of his many failures and the misfortunes that have come to his patients. To the association of the man of little experience in medicine with the man of great experience, the young man brings his dreams and his visions, the older man brings the safeguards of knowledge, the brakes which experience has taught him to apply. Youth gives that quality of spirit and hope for the future that keeps middle age and past from becoming fossilized.

SOME PRACTICAL PROBLEMS IN INTESTINAL OBSTRUCTION.*

F. W. PARHAM, M. D.,

NEW ORLEANS.

It is my purpose here to discuss only some practical problems connected with intestinal obstruction and from the comparatively recent literature to try to formulate some definite rules for their management.

Sir William Taylor, of Dublin, in opening the discussion last summer (1925) on intestinal obstruction in the Surgical Section of the British Medical Association ex-

*Read before the five state Sectional Meeting, American College of Surgeons at New Orleans, January 23, 1926.

pressed a most pessimistic view, maintaining that progress in the management of acute intestinal obstruction had lagged much behind that of other acute abdominal conditions. It gave him almost a rigor when called to a case of intestinal obstruction, because he usually found the patient in an almost hopeless condition. He blamed the general practitioner for this, because he did not earlier realize the gravity of the case. Others who took part in the discussion did not think the surgeon blameless; indeed, blame seemed, in the opinion of some, to attach all along the line: to the patient, his family and friends, the attending physician, the consulting physician and the surgeon. Some of the speakers did not agree with Sir William as to the lack of progress, and hospital statistics were cited to show that the mortality had been reduced materially. That much, however, is yet to be done before we can treat these cases with any sort of assurance, is not to be gainsaid. Murphy not long before he died deplored a mortality of 40% and Deaver said the mortality from intestinal obstruction should be counted nearer 60%.

What can be done to remove this reproach to surgery? Apart from the improvement in our methods which is, I believe, evolving gradually out of the numerous investigations regarding the true nature of obstruction, our hope is in the earlier recognition of the obstruction. The mortality is largely due to the condition in which these cases come to the surgeon. If we could treat the obstruction within the early period the prognosis would be far better. The mortality is directly proportional to the time elapsing from the initial symptoms to the beginning of treatment. It is, I believe, true that the inexperienced surgeon operating early will save more cases than the expert technician operating late. Mr. Grey Turner, of Newcastle-on-Tyne, thought a pamphlet should be published to the profession generally giving the symptoms and signs of early obstruction,

but others thought the surgeon's themselves should be approached.

It is undoubtedly important to recognize these cases early. "Too little distinction," remarks Sampson Handley, "is made between early symptoms and those which mark a lost opportunity." How shall we diagnose a case early? Abdominal pain, coming on suddenly, as colic with tenderness, vomiting more or less persistent, according to location of the obstruction, beginning and progressive distention without marked muscular rigidity. In obstruction due to appendicitis, or other *inflammatory* causes, there is usually muscular rigidity (*defense musculaire*). (Vomiting and distention vary in extent and rapidity of development according to the location of the obstruction—the higher the obstruction, the greater the vomiting.) If with these symptoms and a history of longer than usual constipation an efficient enema fails, and another in an hour or two likewise fails to bring about satisfactory relief, operation is indicated without further delay. Our course would be clearer in such a case, but in a more obscure case, some or all of the cardinal signs and symptoms may be lacking. The utmost care must be exercised not to operate without necessity and yet not to delay too long. The history of the case must be carefully considered and the duration of the obstipation in relation to the habits of the patient must always be given due weight. In such cases I would urge the value of palpation and especially of auscultation of the abdomen. In a few cases an early movement of the bowels may be thus predicted. Case, of Battle Creek, has urged the fluoroscopic and film study of these cases, much information of real value being obtained without the barium meal, though where time and condition permit, the meal gives additional information.

Grey Turner, of Newcastle-on-Tyne, again advocates the calomel test. Four or five grains of calomel are given, one-half

grain every half hour, followed by an effective enema. The bowels will either move or the obstruction be better developed and operation indicated. The chief objection to this plan is the delay, requiring 8 to 10 hours. The failure of the thorough enema is, perhaps, the most striking indication for operation. The case has now clearly become surgical and there is no excuse for further delay. The caution might here be urged: "Never let the sun set on an unrelieved intestinal obstruction." Operation at this early state will often permit of the finding and removal of the obstruction. Generally nothing else but lavage before and after will be required and the mortality will be small.

For purposes of discussion of the treatment the classification of Sir William Taylor is useful:

First stage, marked by vomiting, pain and distension, without muscular rigidity. Treatment: Lavage, operation, lavage. The operation consists of removing the obstruction, if possible; if not, high enterostomy above the obstruction with lavage and plenty of fluids, given by the most effective methods, the most satisfactory being subcutaneous and intravenous.

Second stage: Marked by a deepening of the earlier signs and symptoms: more aggravated vomiting, increasing distension and growing depression. The formula here should be: lavage, operation, high enterostomy, repeated or continuous lavage, and abundance of fluids. It may be possible, even in this stage, to operate, find the cause and remove it, which should be done, if the operative risk is not too great. If the condition does not warrant the radical operation, then a high enterostomy should be done; indeed, it would be best done even where, in this stage, the obstruction has been relieved.

The third stage being an aggravation of the second merely emphasizes the necessity of doing all that has been suggested in the second with some additions intended to

meet the intensified pathology. I shall consider in more detail the measures in common for the two stages:

An additional factor has now come into the case, that of toxemia. A very complete account of the investigations made regarding the nature of the toxin elaborated in intestinal obstruction will be found in Ellis's article in *Annals of Surgery*. I shall not enter into a discussion of this. It is sufficient to say that pathologists and surgeons agree that there is a poison generated in the occluded intestine which gives rise to a toxemia, the real cause of death. If the case is seen in time and the toxic contents of the bowels above the obstruction withdrawn, the patient may get well. Copher and Brooks, of St. Louis, in *Annals of Surgery*, however, take exception to this statement. They assert that the toxin cannot be washed out, that nothing but excision of the obstructed intestine will suffice to remove the toxin; that even its absorption cannot be prevented, and that it cannot be neutralized after absorption into the tissues.

We might agree that a time arises when the tissues are so saturated with the absorbed toxin that the removal of the original focus of fluid is useless because it is too late. We know this occurs in tetanus after the chemical combination of the toxin with the spinal marrow has been accomplished. The reports from the surgeons, however, now indicate that jejunostomy has saved cases that without it would have died. So much depends on its timely use that we must chiefly attribute its failure to its being used too late. How does it act? By emptying the obstructed intestine, thus inhibiting absorption, and, in conjunction with the lavage, by relieving the stomach of the regurgitating fluids.

The operation usually attributed to Victor Bonney (*Middlesex Hospital reports*, 1910) consisted in making an enterostomy high. His theory was that gas was found in these cases just above the obstruction, fluid being found higher up only. Sampson

Handley and others have not been able to verify this observation and think there is nothing to justify it. It is more reasonable that the fluid should collect first just above the obstruction and move upwards. Sampson Handley objected to Bonney's external drainage, because there was loss of jejunal juices and the fistula has later to be closed, and suggested a jejuno-colostomy with a cecostomy. This objection to Bonney's method was well taken, because his technic (Emanuel Senn's) was the fatal point in his method, as pointed out by Summers. The objection of loss of juices was not strong, because this could be controlled by clamping the tube. If the jejunostomy be done by the Long-Witzel valvular method all of Handley's objections are overcome. The serious objections to Handley's procedure are evident. The jejuno-colostomy being within the closed abdomen cannot be used for lavage or introduction of nutriment, but I believe the principal objection is the turning into the colon of the contents of the jejunum high up before appreciable digestion and nutrient absorption has been accomplished. Every inch possible of the upper intestine should be made available for this purpose, and this is not secured in Handley's procedure. The operation, moreover, is difficult and time consuming, in the circumstances under which it is called for, and though it has proved successful in a few cases, it certainly ought not to have preference over the simpler procedure here advocated.

Ravdin, of the University of Pennsylvania, has suggested the simplest access to the jejunum, especially applicable as a primary operation to the cases where the abdomen is not already opened, or has been closed at a previous operation. The procedure can easily be carried out under local anesthesia as it involves no complicated search and little manipulation. "An incision about 2 inches long is made just posterior to a prolongation of the anterior axillary line beginning at the tip of the eleventh costal cartilage. The incision is

carried directly down to the peritoneum through the external oblique, internal oblique and transversalis muscles with no regard to the direction of their fibres.

The peritoneum is opened for a distance of about one inch. In the majority of cases a high loop of the jejunum, which will vary from 8 to 10 inches from the duodeno-jejunal flexure, will immediately present in the opening. If this does not occur, the finger can be introduced just anterior to the upper portion of the descending colon and a similar loop be brought into the opening. The abdominal incision being small, suture is not necessary." A tube, 15 to 18 French, is then put in by the Witzel method, and brought through the omentum as suggested originally in 1916 by John Wesley Long, of North Carolina, and popularized by C. H. Mayo in 1917.

Afterwards when the tube is of no further use it is simply drawn out and the fistulous wound closes without trouble.

I would mention here an interesting case in illustration:

A gentleman was operated on for a ruptured gastric or duodenal ulcer. Following this he became distended and vomited excessively. Thorough lavage failed to relieve him and a jejunostomy was done with a de Pezzer catheter. Subsequently the opening became much enlarged and the catheter came out or was removed. The problem became then one of controlling the effect of the juice on the abdominal wound. This was effectively accomplished by the use of the electric suction apparatus, but after a time he began to emaciate owing to the escape of his nutriment through the large jejunal fistula. A resection of the bowel was done and a lateral anastomosis settled this difficulty and the patient made a rapid recovery.

Such a catastrophe would ordinarily be prevented by inserting a straight tube or catheter by the Long-Witzel method as described.

You are doubtless all familiar with the procedure of Wilkie, which shows indubitably that Handley's objection to jejunostomy does not hold. In Wilkie's case a catheter was inserted to relieve distention

following operation for ruptured appendix, but it soon became evident that it had been inserted below the obstruction. A high incision was made and a jejunostomy was done. Instead of letting the discharge flow into a receptacle, the upper catheter was connected by a glass tube to the lower one. The scheme worked beautifully; no fluid was lost, but the obstruction was overcome and in a few days both catheters could be removed. This trick is worth bearing in mind.

The method of McKenna may be used with advantage in bad cases. He uses two No. 18 French catheters, one toward the stomach, the other down the jejunum.* Orr and Haden have recently asserted as a result of experiments on dogs that in the treatment of experimental obstruction of the jejunum, "jejunostomy does not prolong but seems to shorten life. * * * When these experimental observations are compared," they remark, "with the clinical reports of the value of jejunostomy for intestinal drainage, one hardly knows how to draw conclusions properly. It is possible that the patient does not react like the animal to jejunal drainage." They do not wish to advise against jejunostomy in the treatment of ileus.

I believe in any advanced case where a jejunostomy is done it would be well to add a cecostomy, the lower drainage being a decided advantage, as recommended by Sampson Handley.

In addition to the measures just described there is a further suggestion well worth our consideration, in these trying cases.

Haden and Orr in a series of experimental observations on high intestinal obstruction in dogs seem to have demonstrated the following facts:

There is in intestinal obstruction at first a fall of chlorids in the blood, then follow

*Dr. W. J. Mayo mentions in his editorial in S. G. & O. that Sir William Taylor, of Dublin, uses also two catheters, one to empty through and one to feed through.

a rise in non-protein and urea nitrogen and a rise in CO_2 combining power. There is in CO_2 combining power is probably an incident in chloride metabolism, whereby sodium ions are set free, uniting with CO_2 to form bicarbonates causing an alkalosis. The chlorides seem to exercise a protecting influence, holding in check the non-protein nitrogen rise and the CO_2 combining power. These investigations have shown that the addition of chlorids to the blood will delay the development of the toxic effects and when used in conjunction with drainage of the obstructed intestine will, especially if done early, bring about a decided amelioration and sometimes prompt recovery.

Walters, Kilgore and Bollman in a paper reporting their investigations on the blood changes in duodenal fistula, on experimental and clinical study, show the same chemical changes as those found by Haden and Orr in high intestinal obstruction. These consist of increasing alkalosis, decreasing concentration of chlorids in the blood serum and progressive rise of blood urea, and the response to intravenous injections of chlorids, glucose and water is similar to that in intestinal obstruction, reported by Haden and Orr and by McVicar. Walters, Kilgore and Bollman showed, however, that the restoration of the chlorids to normal was ineffective unless a sufficient amount of water was at the same time introduced. Intravenous injection, twice daily, of from 500 to 700 cc. of a 1% solution of sodium chlorid "will maintain life in dogs with duodenal fistula for more than three weeks, * * * whereas without such injection death occurs within three or four days." The parallel with intestinal obstruction seems practically complete. The use of glucose alone is not sufficient. By its diuretic effect it aids in the elimination of the accumulating non-protein nitrogen, but it has no effect on the blood chlorids. The combination of glucose with chlorids and sufficient water markedly assists the elimination of the urea and non-

protein nitrogen and stops its further accumulation.

Water and hypertonic solutions of sodium chlorid and glucose are diuretics of the first order. These solutions stimulate peristalsis. McVicar uses lavage to remove excessive accumulations of secreted material, but not because this secretion is toxic. He deprecates the use of alkalis, for example, sodium bicarbonate, because they increase the alkalosis and predispose to tetany. They are to be used only where there are distinct evidences of acidosis.

In spite of the experimental conclusions of Copher and Brooks that the introduction of chlorids into the blood has little or no influence upon the course of high intestinal obstruction there seems sufficient clinical evidence of its value in the treatment of man to make it the surgeon's duty to use them in conditions where the blood examination shows their depletion. McVicar, Dixon, Balfour, the Mayos, and many others have testified to the value of this procedure, and combined with glucose we have what will often prove a life-saving measure.

Dr. Roscoe Graham, of Toronto, in a personal communication, expressing the views of himself and Dr. F. N. G. Starr, speaks as follows: “* * * if we find the blood chloride low prior to operation, we feel the prognosis very much less hopeful, and there is no debate about draining the proximal portion of the obstructed bowel; when the blood chloride is low either before or following operation, an attempt is made to raise it to normal by means of the introduction of chlorides in the form of interstitials of normal saline, giving ammonium chloride by mouth and by rectum and a high percentage of sodium chloride intravenously.” “If the situation is desperate we give to an adult 600 ccs. of a six per cent solution intravenously. We have found this to be very efficacious and to produce fewer reactions than the more concentrated amounts.” They have found

Frosst's Keratan-coated elastic capsules containing $22\frac{1}{2}$ grains of ammonium chloride given by mouth very useful. They have many times been able to raise the blood chloride from 23 mg. per 100 cc. to normal in 12 hours by giving such capsules, while failing by any manner of administration of sodium chloride. They have given with great satisfaction per rectum 180 grains of ammonium chloride in 3 ounces of water every four hours.

Another practical problem worth mentioning here is concerned with fecal drowning so clearly described some years ago by Willys Andrews. It sometimes happens when by operation an obstruction is released, reverse peristalsis will carry the fecal contents rapidly up into the stomach, where vomiting may result in drowning if the glottidal reflex has been abolished by the anesthetic. On its first appearance, the head must at once be lowered and the gastric lavage be at once begun until the regurgitation is stopped. I have in one case observed the process continue for a half hour before it could be stopped and only then when the head had been brought up to the level of the body. The anesthetic is also a consideration of importance, on account of its damaging effect on the liver in bad-risk cases. Bevan and others have sufficiently emphasized this danger. Nitrous oxide and oxygen, ethylene, are to be given preference in these cases. Combined with infiltration of the abdominal wall with novocain, the objection of insufficient muscular relaxation will be largely overcome. Sometimes spinal anesthesia may be the anesthetic of choice.

Finally, I would lay stress upon the Jutte or similar small tube passed through the nostril; this may be left even several days at a time, during which period water or other fluids may with advantage be given freely by mouth without fear of overloading the stomach, because the tube may quickly relieve the distress at any time. Veno-clysis or the Matas intravenous drip may render in many cases invaluable service.

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A PRACTICAL CONSIDERATION OF DIABETES MELLITUS.*

G. W. F. REMBERT, M. D.,

JACKSON, MISS.

PREAMBLE.

The object of this paper is to put before you some of the plainer facts in the knowl-

edge and treatment of diabetes mellitus and effort has been made to avoid highly technical terms and procedures. There has been much intricate detail in the study of this disease and in the development of insulin, but for the busy physician, especially that one in general practice, with little time for individual laboratory work and study, it would appear that a plain and concise outline will be of more value, hence this effort.

DEFINITION.

Diabetes mellitus might well be described as a disease in which the patient is unable to convert a sufficient amount of carbohydrate taken in the food into glucose to carry on the daily food requirements. On account of the truthfulness of the slogan "fats are burned in the flame of the carbohydrates" and as 46% of all proteins and 90% of the fats become fatty acids in the body, unless there can be a sufficient amount of glucose utilized in the body to burn these, there will result incompletely oxidized fats or ketone bodies with the formation of acetone, diacetic acid and b-oxybutyric acid.

IMPORTANCE.

It is, then, these poisons that are especially harmful and dangerous to the patient and which are responsible for coma and the fatal termination in the majority of the deaths in diabetes mellitus, and while surgical complications and other disease-states are at times encountered in the course of this disease (and they will be taken up, by other of your essayists), yet the great outstanding danger of every case of diabetes is unquestionably that of acidosis.

HISTORY.

While this disease was recognized and described by Aretaeus as early as 800 A. D., and a description of the islets of the pancreas by Langerhans in 1869, which islets still bear his name, yet it was not until 1889-90 that von Mering and Minkowski made their report on the results of the complete extirpation of the pancreas in dogs as the results of which rapid and fatal glyco-

*Read before the Mississippi State Medical Association meeting, Jackson, May 11-13, 1926.

suria developed, which condition co-incided with that of diabetes mellitus. Ssobelev and Schulze in 1900 also showed that when the pancreatic duct was ligated or when grafts were made of the pancreas there was a degeneration of the pancreatic structure, with the exception of the islets, and in such cases glycosuria did not occur, the conclusion was then reached that there was some secretion from these islets that brought about the usual carbohydrate metabolism and the name of insulin was suggested by Schafer in 1916.

ETIOLOGY.

From an etiological standpoint many surmises have been made. Heredity, not only familial but racial, has been believed of importance for it has been frequently observed that more than one case occurs in a family and the Jewish people and higher class Hindus have been especially prone to the disease. Overweight has been regarded as an especially predisposing factor and Joslin has humorously depicted the "Diabetic Club of America" in which obesity was regarded one of the prime requisites for membership, and called attention to the fact that over the age of 50 there were 20 members of overweight to every 1 of normal weight. Also, Paullin, in a series of observations, reported that the overweight are 19 times more liable to diabetes than those of normal weight. Again, as the disease is regarded by many as the result of a pancreatitis, infection, especially of the teeth, tonsils, sinuses, and gastro-intestinal tract, is believed to play an important role. Lichty has reported several cases of apparently true diabetes associated with gall-bladder disease in which the diabetic symptoms cleared after the operation for the biliary condition. Psychological influences, as grief, worry, business strain, and fright, probably through endocrine influences, viz: the thyroid and adrenals, and, according to Leschke, disturbances of the sympathetic nervous system and mid-brain, might precipitate the disease.

PATHOLOGY.

While it was formerly regarded that there was a true and fixed pathology in diabetes mellitus, viz: a degeneration of the islands of Langerhans, yet, this is now by no means regarded as sure. Wilder recently reported several rapidly fatal cases of diabetes mellitus which on autopsy showed no evident disease of the pancreas, and in a recent personal communication from Adams, Williams of Rochester has just reported a case of diabetes that died 15 days following the onset of symptoms and in which the pancreas, at autopsy, was normal in every respect. I have understood that Joslin has recently reported a series of some 26 cases of fatal diabetes which at autopsy, too, showed no apparent involvement of the pancreas structure. Newburgh and Camp recently described a case of glycosuria which in every respect appeared true diabetes mellitus and which complied with all the usual tests for this disease (the patient being a young married woman and mother in the thirties) and in which there was a plus 35 metabolic rate as the result of thyroid excitation and which proved to be an anxiety state in which by psychoanalysis by Camp there was found to be an unwarranted oedipus complex, which when the fallacy of the woman's fears were proven to her, her basal metabolic rate rapidly fell to normal and all signs and symptoms of this apparent diabetes disappeared. But whatever is the state of the pancreas, it is believed that its insulin-producing power is interfered with, and while insulin has been demonstrated in the muscles and some of the other tissues of animals, yet, such insulin, when extracted, has been rather inert in bringing about carbohydrate metabolism when injected, and it is felt that the pancreas serves as the converter or transformer of the inert insulin into a utilizable kind.

SYMPTOMS.

The symptoms are variable and inconstant, and while many cases of the disease are classical in the symptom arrange-

ment—such as excessive hunger and thirst, frequent and copious urination, progressive loss of weight and strength—yet, it is not infrequent that the accidental finding of sugar in the urine is the first intimation of the disease being present. Sometimes such complications as recurring boils and carbuncles, balanitis, pruritus ani and vulvae call attention to the advisability of an urinalysis at which time the true nature of the trouble is found.

DIAGNOSIS.

The diagnosis is easy in a well developed case in which the cardinal symptoms, including glycosuria, are present, especially when an estimation of the blood-sugar level reveals the presence of an hyperglycaemia. In milder cases, however, none of the symptoms as mentioned might be prominent and even glycosuria might not be present when the examination is made for the reason that the patient might have been fasting or resting or on a low carbohydrate intake. A mistake might be made in the urine examination in which sugar, if present, is not demonstrated on account of faulty solutions or technic, or, if supposedly present, might be due to drugs, albumins, phosphates, uric acid, creatinin, levulose, pentose or glycuronates. In these cases errors can usually be avoided by using fresh Benedict's qualitative solution, diluting the urine one or more times. If doubt still remains, the fermentation test for the urine and estimation of the fasting blood-sugar level will usually clear up the doubt. As for the glucose tolerance test and in which so much confidence has been placed by many to show by the so-called curves the presence of a potential diabetic state, while it might have some value from a technical standpoint, I believe that the majority opinion is that it is too extreme and fine a diagnostic procedure to be of practical value.

Again, glycosuria can be present in conditions other than diabetes mellitus, e. g., in transient states as in toxic goiters, some brain injuries, emotional stress and after the overeating of sugars, and in permanent

cases as in renal diabetes, idiopathic or during pregnancy or in nephritis as reported by Wordley. These cases show a normal or sub-normal blood-sugar level and the output of sugar in the urine is not influenced by the intake of carbohydrate and they are, apart from the glycosuria, without symptoms, are not associated with acidosis and are supposedly due to an unusually low kidney threshold for sugar.

On account of the fact that diabetes is essentially a condition of reduced carbohydrate tolerance and the severity of every case is measured by its own tolerance for glucose, dietary management becomes necessarily the prime factor in the treatment. There have been many dietary plans advocated, e. g., Woodyat, Newburgh and Marsh, Joslin, Mosenthal, Allen and others—some advising high fats and low carbohydrates, others with low fats, high carbohydrates and moderate proteins, and various other combinations. Allen advised a continuous low maintenance diet, even to the point of mild or moderate starvation. Fasting days have been suggested and tried—one day out of seven, at which time the pancreas was, by fasting, given a rest—and in some cases with apparent benefit, and while the very low and prolonged maintenance diet has been very beneficial in some cases, in others, the prolonged state of marked undernutrition has precipitated some conditions which have been harmful in the way of infections, edemas, etc., and the failure to supply a sufficient food supply has produced a metabolism of the body tissues with a constant glycosuria resulting.

While many formulas for diet prescribing have been advocated, the following serves very well for practical purposes in the majority of cases—the patient is weighed and measured and the most favorable weight for the height, age and sex of that individual is estimated and this weight in pound is converted into kilograms by multiplying by 2 and one-fifth. If the

patient is an adult and is in a very good state of nutrition, a maintenance diet of 25 to 30 calories per kilogram of body weight per day will be a good basis with which to begin. Having then estimated the approximate number of calories that should be given each day and allowing 1 gramme of carbohydrate per kg.; $\frac{3}{4}$ to 1 gm. protein per kg.; and sufficient fats to make the balance of the caloric requirement for the day. If this diet is tolerated without glycosuria and the fasting blood-sugar level which was previously estimated is found to be returning to normal (.08%-.12%) the allowance can then be gradually increased, approximately 5 gm. carbohydrate and 20 gm. fat, in an average weight adult. This can be increased as the conditions would permit and as the exercise is increased but rarely should any diabetic, regardless of weight or exercise, be allowed more than 2500 calories daily.

Newburgh and Marsh and others have shown that for the average adult $\frac{3}{4}$ gm. of protein per kg. per day will maintain the necessary nitrogen requirements, but for those who are weak or who have lost much weight 1 gm. per kg. will be better. Children, however, on account of their growing body frame naturally require more protein and should be given $1\frac{1}{2}$ to $2\frac{1}{2}$ gm. per kg. per day.

Campbell has advocated a low carbohydrate, low protein and high fat diet, basing the formula on the surface area of the patient, according to the Aub-DuBois chart for estimating the square metre measurement of the body surface. In this way, he first finds the height and weight of the patient and from these two factors he finds the square metre measurement of the patient's body surface and then uses a scale showing the ideal number of calories per day per square metre, the scale ranging in years from 10 to 70, and estimating the caloric requirement per day from 1236 to 876 for males and 1200 to 816 for females, the requirement for sq. m. of body surface pro-

gressively becoming less per kilo from the age of 10 upward. For children, it is impractical to follow the above so that weight only is the basis for estimating and up to 10 kg. wt. there is allowed 55 calories per kg. per day; from 10 to 15 kg.—50 cal. per kg; 15 to 20 kg. wt.—50 cal. per kg. per day is allowed. His formula then is (total calories from surface area chart):

Protein — $2\frac{2}{3}$ gm. per kg. body wt.

Carbohydrate—M (maintenance)—10 P

30

Fats —M (maintenance)—P

10

2

Example: Male, age 40, height 5 ft. 8 in., weight 132 lbs. (60 kg.) S. A. 1.75 sq. met. Cal. req. daily $1.75 \times 948 = 1659$.

Pr — $2\frac{2}{3}$ of 60—40.

Ch— $1659 - 400$ (10 P.)— $1259 + 30 = 42$.

Fat— $1659 + 10 = 166 - 20$ (P+2)—146.

Women at same age and height and weight requiring 864 per sq. met.—1512. P. 40; Ch. 37; Fat 131.

In arranging a diet it is essential that the ratio between the fats and glucose (ketogenic-antiketogenic ratio) be kept within safe limits, for otherwise acetone will result. Woodyat believes that this ratio should hardly be more than 1.5:1, while Wilder and some others have felt that a ratio of 2:1 would be safe, and some have felt that a ratio of even $2\frac{1}{2}$ to 1 might be safe in some cases, but that limit is too high for safety and had better not be attempted. It is the rule at the Toronto Hospital to be in dietary management with a ratio of 1.3 to 1 and gradually increase the fats until the ratio is as much as 1.7 to 1, rarely ever going higher than this amount.

A very necessary precaution is that the fasting blood-sugar level should be carefully watched throughout the case, and especially should this be done before making diet increases. While many are inclined to ignore the frequent estimation of

the blood-sugar percentage, today, probably more than ever before, it is found that to do so is not only fallacious but actually dangerous as the recurrence of glycosuria and reactions from insulin (if given) are much more likely.

If after a few days of basal diet restriction the urine is sugar-free and the blood-sugar level is .13% or lower, it is then safe to increase the diet by adding 5 gm. carbohydrate and 20 gm. fat, making a total increase of 200 calories; if after a week or ten days the same conditions prevail in that the urine is still free of sugar and the fasting blood-sugar percentage is not over .13% and the patient is increasing the exercise the same increase of 5 gm. carbohydrate and 20 gm. fat can be made; this increase can be done a third time in 10 to 14 days if the conditions justify, as before. After this time, if the urine is still sugar-free, acetone-free and the patient doing a generous amount of exercise, 7 to 10 gm. protein and 10 gm. fat can be added to the diet—provided that the blood-sugar is not over .13%.

If, however, the patient does not become urine sugar-free after the probationary period of 5 to 7 days, insulin should then be used. While a frequently used method is to begin with small doses of insulin, given $\frac{1}{4}$ to $\frac{1}{2}$ hour before each meal, gradually increasing the dose until the sugar disappears from the urine. (This is in the nature of a symptomatic treatment and more likely to precipitate an insulin reaction by producing an hypoglycaemia). A better method is to estimate the number of gms. glucose in the 24-hour specimen of urine and then give a sufficient amount of insulin—allowing 1 unit for every $1\frac{1}{2}$ to 2 gm. sugar in the urine. (The glucose value of insulin is regarded as 1 to 4 gms. for every unit insulin, with $1\frac{1}{2}$ to 2 gms. as an average). The best method of insulin dosage, and the one that will most quickly restore the blood-sugar and urine to normal levels, is to estimate the fasting blood-

sugar percentage and then give 2 units insulin for every .01% above the normal reading of .13%. On account of the fact that some are more susceptible to the action of insulin than are others, it is very advisable that insulin be cautiously used throughout, and especially at first, until the patient's tolerance for insulin can be found, thereby preventing reactions.

There is a question on the part of many as to the number of doses that should be given, some advocating one, others two, and some believing three doses better. For the average case three doses daily ($\frac{1}{2}$ hour before meal) seems the best plan except when the daily requirement is 10 units or less, in which case a dose given morning and evening will suffice. Smaller doses might be given at one time, preferably in the morning, before the breakfast. In very severe cases, insulin might be best given every 4 hours.

One must be constantly on the alert for insulin reactions, due to the rapid production of hypoglycaemia, which might come on most unexpectedly and the especial symptoms of which are restlessness, nervousness, apprehension, pallor or flushing of face and body, hot flashes, hunger and fatigue. In case the reaction is more severe coma might develop, and unless sufficient carbohydrate is given fatal results may take place. As soon as the above symptoms are noted, $\frac{1}{2}$ glassful orange juice, 1 or 2 lumps of sugar, 1 or 2 teaspoonfuls glucose, a stick of candy or other available carbohydrate should be given. Should the condition become more profound and coma develop, glucose should be given intravenously in 20 to 30 cc. doses of 10% to 50% solution.

While insulin is a most valuable adjunct in the treatment of diabetes it is exceedingly dangerous when used carelessly or without a true knowledge as to the underlying blood-sugar level and not judiciously combined with careful and strict dietary restrictions.

ACIDOSIS—MILD.

In the treatment of acidosis, where the symptoms are not very severe and the patient not especially drowsy, it is best to withhold fats from the diet and to give insulin, best combined with 90 gm. orange juice, every 4 hours, testing the urine for sugar and acetone each time before administration. If with Benedict's solution the reaction is red, 15 units of insulin should be given;—if yellow, then give 10 units;—if green, 5 units, if no sugar reduction, the orange juice only will serve to bring about acetone body combustion.

ACIDOSIS—SEVERE.

Should the acidosis be more severe, and the patient drowsy, restless and with very slow respiration, and sugar and acetone found in the urine, insulin should be at once given in 20 to 40 units and repeated in dose of 10 to 20 units every 2 to 4 hours until the conditions become improved. Where possible the CO_2 combining power of the plasma should be done. If the blood sugar level is high and a great deal of sugar is in the urine the insulin may be given without the administration of glucose at the time. Later doses, however, it will probably be safer to combine with glucose in some form. If fluids and glucose cannot be well taken by mouth, they may be given by hypodermoclysis, by drip or intravenously.

In the case of advanced coma it will be necessary to administer insulin in 40-60 unit doses, combined with an equal number of grams of glucose. The insulin should be given subcutaneously and the glucose by mouth or subcutaneously, but if the conditions are sufficiently severe both insulin and glucose may be given intravenously, very slowly, not more than 10 cc. per minute. Both should be repeated every hour or two if necessary, according to the condition of the patient. In the meantime the patient must be kept well warmed with blankets, the bowels well emptied with enemas and castor oil if seemingly necessary, and generous quantities of fluids

given. In every case of supposed diabetic coma care must be exercised to see whether any other condition, such as apoplexy, uraemia or some other intracranial condition is responsible instead of the diabetes, but careful examination of the urine for glucose and acetone and of the blood sugar, CO_2 combining power will serve to clear the situation.

Joslin calls attention to the fact that diabetic coma should always be looked upon as an accident and always avoidable. He feels that it is either due to the overeating of food or too rapid combustion of the body itself by hyperthyroidism or fever or infections, which increase the metabolic rate so fast as to produce a hypoglycaemia and excess of acetone. In both cases he feels that insulin is demanded and should be given in sufficient doses without loss of time.

CONCLUSION.

In conclusion I can not do better than quote from the Canadian Medical Association Journal:

"Diabetes mellitus can be successfully treated in the less severe form by giving a properly balanced diet; in the more severe, by proper diet and an adequate daily dosage of insulin. The success of treatment is dependent upon the physician for the institution of proper treatment, and upon the patient for the continuation of the treatment prescribed. A prescription of a properly balanced diet is of as much, or even greater importance for a case of diabetes mellitus than is one of drugs, in the majority of the diseases the physician is called upon to treat. In the beginning of treatment the value of the month or six weeks' stay in an institution with proper facilities for the investigation and dietetic control of cases of diabetes mellitus cannot be overestimated. The case can be more fully investigated and the effect of an accurate diet carefully controlled. The patient appreciates more readily the value of proper diet in the treatment of his condition, and be-

comes familiar with the character, amount and preparation of the various foodstuffs constituting his diet. In an institution the tuberculous learn how to live; the diabetic, what to eat."

SURGERY IN DIABETICS.*

J. W. BARKSDALE, M. D.,
JACKSON, MISS.

Since the introduction of insulin as a remedial agent in the treatment of diabetes, surgery in this class of patients has been robbed of many of its terrors. Prior to the discovery of this remedy, operations on diabetics were seldom undertaken except for gangrene, carbuncle or other septic troubles. It is, perhaps, true that the incidence of surgical ailments is proportionately greater in diabetic than in non-diabetic troubles and the percentage of fatalities should not be greatly in excess of an average for similar operations in non-diabetics.

In addition to the relief of the particular condition for which surgery is undertaken, many authorities comment on the somewhat remarkable improvement that often takes place in the diabetes as the result of surgical intervention. This can, in some measure, be attributed to the enforced rest and the dietetic restrictions that necessarily accompany operation. Apart from these facts, however, there often seems to be a permanent improvement in the blood sugar percentage and the urinary output of sugar that cannot be accounted for by the short period of time which is required for surgical convalescence; therefore, the relief of surgical ailments not only corrects the condition for which surgery is primarily undertaken but is often a most potent factor in the prolongation of life from a purely diabetic standpoint.

I shall not attempt to enumerate the various surgical conditions for which operation may be demanded, but, suffice it to say, that they cover practically the entire range of surgery. I shall discuss later on, in a little more detail, septic conditions and gangrene as these two can be considered, to a greater or less extent, as more or less constant accompaniments or complications of diabetes rather than separate and independent pathologic processes.

There are certain facts well worth remembering which should be borne in mind in approaching an operation in diabetes. Not infrequently these patients come in with a marked degree of acidosis or threatened coma, in which condition delay would seem to be advisable in an effort to counteract or combat these manifestations. If the disease for which one proposes to operate is not emergent, a postponement of operation until these symptoms shall have been corrected may be advisable, but, as will be shown later on in sepsis and gangrene these two may be the factors which are directly responsible for the acidosis and no improvement may be looked for until the infectious process is relieved. Joslin gives the fairest and most unbiased statement of the surgical aspect of diabetes of anyone with whose writings I am familiar, having treated extensively on this subject. He says, "All surgical consultants agree that any infection in a diabetic is an emergency injuring a diabetic's tolerance for carbohydrate and demanding immediate operation. In fact, so intimately are tolerance and infection associated that each serves as an index of the state of the other." Again he says, "The factors which favor surgical success in diabetes are, first of all, an early diagnosis and an early decision to operate. If surgical delays are dangerous under ordinary circumstances in diabetes they are disastrous. The physician who presents the facts to his patient so clearly that he will recognize the necessity of being operated on at once, is lowering surgical mortality just as much as the surgeon who

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operates gently, rapidly and deftly. * * * The principle must be recognized that the surgical necessity determines the day (or night) and hour of operation. * * * to the surgical condition the medical treatment must conform. * * * If you treat him first for the diabetes and second for the operation the duration for that case of diabetes is apt to be brief."

The chemical aspects of diabetes have been touched on by others in this symposium so that I shall not indulge in useless repetition here. I must say, however, that it is exceedingly unwise to restrict the carbohydrate intake prior to operation as it is often of vital importance in the prevention of acidosis to increase the carbohydrate supply to the utmost, thereby assuring ourselves that the liver is fairly well stored with glycogen. This fact should be borne in mind after, as well as prior to operation, be encouraged at as early a period as the patient is able to take nourishment. This applies with equal force to the introduction of liquids into the body, by the mouth if tolerated, if not, by subcutaneous injection and proctoclysis. A five per cent glucose drip will often give an added amount of carbohydrate as an adjunct to its administration through other avenues.

The choice of an anesthetic is of great importance. Although there is a tendency to the production of an acidosis as a result of the administration of ether, nevertheless this anesthetic has been used preferentially by many excellent surgeons with good results. Nitrous oxide-oxygen has met with a great deal of favor and has been used extensively in recent years with a lowering of mortality over ether administration. Of ethylene I cannot speak authoritatively as I have had neither personal experience with it in diabetics nor have I seen any statistical data with reference to it in connection with this disease. There can be no doubt that local anesthesia is greatly to be preferred wherever possible or spinal anesthesia in such cases as cannot be locally

anesthetized but can be by the intra-spinal injection of novocaine.

It is of extreme importance that all tissues be dealt with as gently as possible, avoiding all unnecessary traumatism. To this end a tourniquet should never be used in diabetic gangrene as it may be the added factor that will result in sepsis or gangrene of the stump. Formerly it was the custom to make all amputations above the knee for gangrene of the lower extremities, whereas, now practically all are amputated below the knee where the gangrenous process is confined to the foot, and this change, I feel, is due to the avoidance of the tourniquet and the proper exhibition of insulin. When one considers the extreme damage that is often encountered in the blood vessels of the lower extremity, an obliterating endarteritis of the smaller vessels and atheroma or arteriosclerosis of the larger ones it can readily be seen why any constriction of the limb might result in a sufficient injury to the arterial trunks to favor the recurrence of gangrene in the stump. We have operated on cases of gangrene where the tibial arteries would crush like pipe stems when grasped by forceps.

As there is a large responsibility resting on the shoulders of the medical man when some surgical complication supervenes, so also would the surgeon recognize the necessity for the closest co-operation with the medical man after operative measures have been resorted to. While the surgical condition must not be lost sight of, nevertheless the purely diabetic aspect of the case should be promptly turned over to an internist who is thoroughly familiar with the modern conception of diabetes and its treatment. It has been my invariable practice in all cases of diabetes requiring surgery immediately to call in a medical consultant and have him assume full responsibility for the dietetic and medical treatment of the disease. I feel that thus the best interests of the patient have been conserved and cases have been carried to a successful issue

that otherwise might have resulted fatally. It but serves to illustrate here, as elsewhere in medicine, that the field is a broad one and that harmony and concert of action in all branches of medical endeavor are essential if we would render to our patients the utmost of service, forgetting petty jealousies and vanities and striving only for a single purpose, the welfare of the patient.

THE SPHENOID AND POSTERIOR ETHMOIDS AS SOURCES OF FOCAL INFECTION USUALLY OVERLOOKED.

AMEDEE GRANGER, M. D.,

Director, Department of Radiology, Charity Hospital, Professor of Radiology Graduate School of Medicine, Tulane University.

NEW ORLEANS.

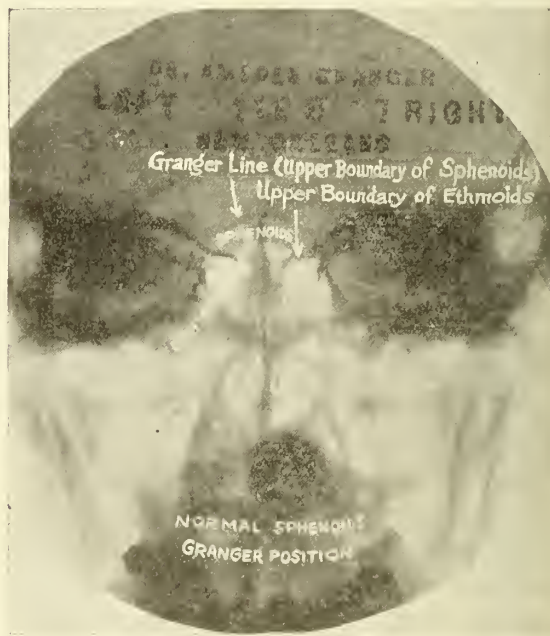
As the title of our paper indicates, we will limit our remarks to a consideration of the posterior nasal sinuses only. Diseases of the frontal, maxillary and anterior ethmoids are not so likely to be overlooked, as the examination of these sinuses can be made readily and satisfactorily. On the contrary, the examination of the posterior ethmoids and especially of the sphenoids even by competent rhinologists is difficult, usually unsatisfactory and very often impossible.

Since 1922, we have devoted much time to the study of the sphenoids and ethmoids by means of X-ray and we have become thoroughly convinced that these sinuses are the sources of focal infection in cases of headaches, neuralgia, neuritis, arthritis and asthma much more frequently than is generally supposed.

We believe that the frequent absence of local or nasal symptoms in these patients is largely responsible for the fact that they are not seen by the rhinologist and that the posterior sinuses are not suspected by the physician who very naturally looks for the trouble in the more common and better

known sources of focal infections, such as the teeth, appendix, gall-bladder and renal pelvis.

In the cases of posterior sinus disease there is a chronic inflammation, sometimes of many months standing, following some acute infection which may be entirely forgotten. The lining membrane of the sinuses has undergone hyperplastic changes and in the more severe cases granular or even polypoid degeneration. When the severe cases are seen by the rhinologist, he readily makes the diagnosis from the presence of pus on the posterior pharyngeal wall or pus or polypoids or both on the middle turbinate or in the middle meatus.



In such cases, pathology of the sphenoid and ethmoid is clearly indicated on any good radiograph of this region by the increased density or the marked opacity of the diseased sinuses.

In our experience, however, the most common pathology of these sinuses has been a hyperplastic condition of their lining membrane, and not infrequently of their peri-chondral membrane as well, without pus or polypoids. This condition can only be diagnosed by a very searching and

painstaking examination made by a competent rhinologist or by careful interpretation of radiographs made by our method. It is only in such radiographs that the diagnostic sphenoid line which we have described and the anterior, upper portion of the sphenoid sinuses situated below the optic groove can be clearly seen and identified. No appreciable changes in density are present on radiographs made by other methods because of the absence of pus or polypoids in these cases of hyperplastic sinusitis, and therefore this condition cannot be diagnosed from their study.

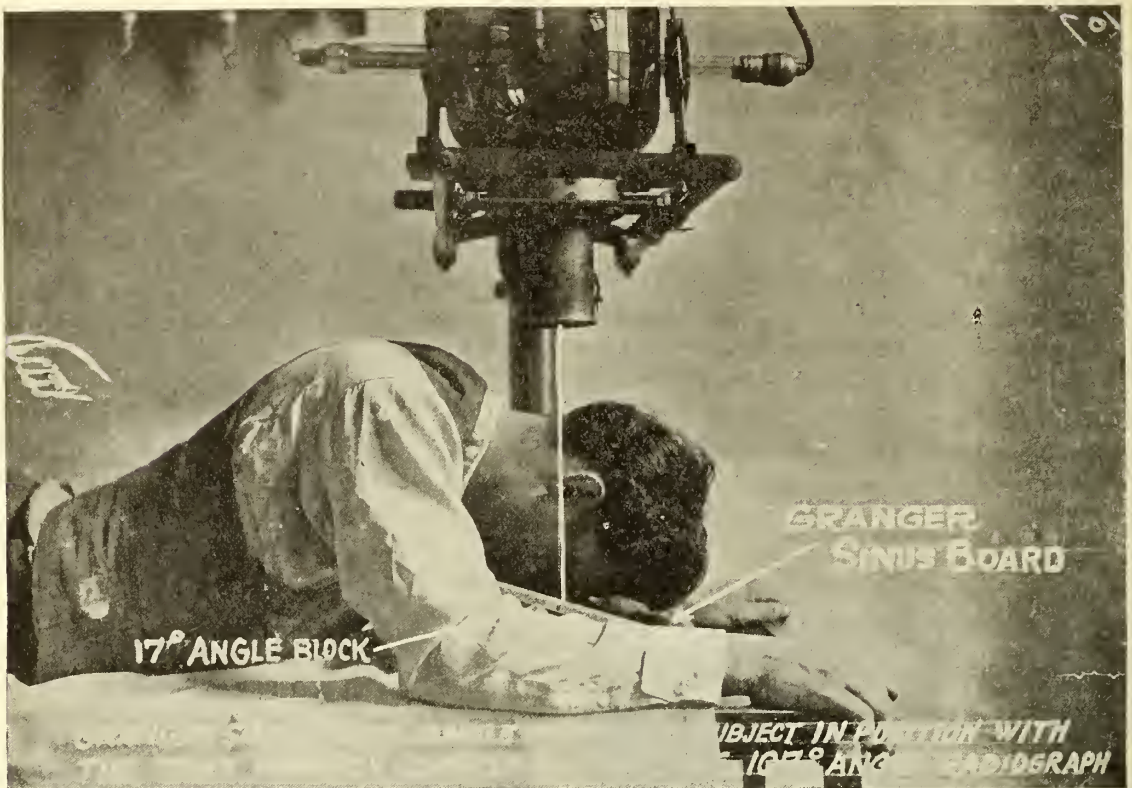
If, as is often the case, these patients see an ophthalmologist because of eye symptoms, such as scotoma or defective vision, or if they consult an oto-laryngologist, diseases of the ethmoid-sphenoid district is invariably suspected and a thorough rhinological and radiological examination is usually made.

But in the majority of instances these sinuses are not suspected and these patients become chronic sufferers. We have seen a number of such cases which continued to suffer from their headaches, neuritis, or arthritis, etc., after the removal of all, or nearly all their teeth, and in at least two cases after the removal of the appendix, being promptly cured or markedly improved by appropriate treatment of their diseased sinuses.

Last year the principal technician in our department at the Charity Hospital had what was diagnosed by the admitting officer as influenza. Following this attack he was confined to one of the hospital wards for nearly three months with attacks of fever and swelling of different joints. Shortly after the onset of his illness, because he had pyorrhea with pus pockets at the roots of several teeth, these were extracted and the pyorrhea treated with little or no improvement in his condition. During the fall and winter months he had occasional flare-ups in one joint or another, but as he followed faithfully the diet and treat-

ment which had been prescribed he got along fairly well without being absent from his work for more than a day or two at a time. About two months ago he was taken ill in the same manner as last year, severe headaches and temperature 104°. A diagnosis of grip was made. On the fourth day his temperature was only 99½°; on the next day it rose to 101° and his ankles became badly swollen and very painful. When on the eighth day he was able to drag himself to the hospital, radiographs of his perinasal sinuses were made and a careful study of these showed bilateral sphenoid-ethmoiditis with pus. Dr. Fuchs saw him, confirmed the diagnosis and washed out pus from both sphenoid-ethmoid districts. His condition improved at once, and two days later, after a total absence of only ten days, he was back at work where he has been continuously since. He is still under treatment and occasionally complains of headaches and pains in some joint, but his improvement was little less than marvelous and he has not lost a day since his return to duty. We plead guilty to the fact that we overlooked his sinuses last year, and we are thoroughly convinced that they were at that time just as they were recently, the source of focal infection and failure to treat them was responsible for his protracted illness last year.

One of our confreres, a member of this society, had several attacks of arthritis due to the presence of pus in the frontal and maxillary sinuses, which were always relieved by the irrigation of these sinuses. About four years ago one of his knees was attacked, but this time the usual relief did not follow irrigation of his maxillary sinuses and he was advised to come to us for radiographic study of his sphenoids and ethmoids. The radiographs showed pus in his left sphenoid and prompt relief of the arthritis followed the irrigation of the sphenoid from which quite a quantity of pus was washed out.



We made the diagnosis of hyperplastic sinusitis in three patients suspected of having brain tumors who were sent to us for radiographic examination. All three were markedly improved after treatment of the sphenoid had been instituted.

Besides headaches and arthritis, we have seen cases of optic neuritis, neuralgia, asthma and hayfever due to infection of the sphenoids and ethmoids promptly cured or improved by the treatment of the diseased sinuses.

CONCLUSION.

After four years of experience and observation we feel justified in suggesting that you examine the sphenoid and ethmoid sinuses in all cases of neuritis, arthritis, severe headaches, etc., after the more common sources of focal infection have been excluded and before the extraction of dead teeth that do not show definite evidence of apical abscess on the radiographs.

And that you be especially suspicious of diseases of the sphenoids and eth-

moids in patients complaining of one or more of the following symptoms: Hemispheres, morning headaches, pain at the junction of the head and neck posteriorly, dripping on the posterior pharyngeal wall, and pain to the inner side of or behind the eyeball.

DISCUSSION.

Dr. Homer Dupuy (New Orleans): Not so many years ago the sphenoid sinus was a "noli me tangere," a do-not-touch-me of surgery. Its anatomical position makes it inaccessible to ordinary methods of instrumental approach. Its relations to such structures as the cerebrum, the cavernous sinus and internal carotid artery, inspired a proper respect for this remotely situated cavity. We might now ask ourselves, "Quo Vadis, whither art thou going?" Well, we are now reaching out for a better appreciation of the part played by the sphenoid in focal infections. We are especially reaching out for more accurate and dependable methods of diagnosing pathological changes in this sinus. No one has done more to try and shed light on this diagnostic element of the question than Dr. Granger. After all, the whole matter hinges on a certain and reliable method of diagnosis. Without this our surgery, which is now quite bold enough, must ever re-

main purely exploratory. Dr. Granger's work marks a decided step in the x-ray diagnosis of chronic sphenoiditis. He certainly seems to be on the right track. I may not have his complete faith in the infallibility of his method as it applies to every case, yet it has helped me in many cases to solve some very difficult problems. I agree that the sphenoid sinus is more frequently involved than we suspect.

Dr. Val Fuchs (New Orleans): I think Dr. Granger is to be congratulated, not only on his technic of taking the sphenoids, but on the fact that the sphenoid has proven to be so clearly a source of infection. I believe the reason that we have never found sphenoidal infection before is that the Ear, Nose and Throat men themselves could not make the diagnosis of the hyperplastic condition—they would simply make diagnosis of empyema. It is quite a different thing to have a hyperplastic condition. In empyema we can see the pus come down from the natural opening or we can instill saline into the sinus and examine for pus. In a hyperplastic condition we have no pus. With the ethmoid hyperplasia we can see some polypoid degeneration, but not so with the sphenoid. In the case Dr. Granger mentioned: the man had no surgery. He had suction for the first three or four days, followed by placing of Douglas tampons of argyrol (10%). Pus was gotten high up in the nasal field between the middle turbinate and the nasal septum. Just to show how hard it is to make a diagnosis I will cite a case. About three years ago a patient from New Orleans went up to St. Louis and spent three weeks, where an attempt was made to determine whether or not the case was a sphenoiditis or a sphenopalatine ganglion neurosis. The ganglion was finally injected with alcohol. The man's symptoms returned. X-ray by Dr. Granger showed hyperplastic sphenoiditis. Since then he was operated on and a hyperplastic condition found. He had one attack of neuralgia about three days after operation. The technic Dr. Granger uses is so much more valuable to us than Pfahler and Pirie's taking of the sphenoid, particularly where we have a turgescence and foggy inferior turbinate, for this condition will unquestionably show the sphenoid area cloudy by these two methods.

Dr. M. Earle Brown (New Orleans): Ophthalmologists can appreciate Doctor Granger's contribution to radiology, especially is this true when surveying the eyes of patients suffering from the sphenoid syndrome (severe pain described as originating over the eye ball, extending to the forehead thence to the center of the head and finally to the back of the head and to the nape of the neck with a duration of from twenty-four hours to three or four days.

Most of these patients enjoy normal vision, but have diminished color acuity (central) for red, green, and blue.

The peripheral field studies show concentric contractions for form and colors, blue, red, and green, and are generally bilateral the greatest contractions are upon the side of the lesion in the sphenoid.

During a symposium recently held by the Ophthalmological and Oto-Laryngological Society of New Orleans, held at the Eye, Ear, Nose and Throat Hospital of which I was the conductor, twenty-seven cases were reported by me of chronic hyperplastic sphenoiditis, where the diagnosis was confirmed by radiograms using Doctor Granger's method, twenty-five of these studies were made by Dr. Granger.

My files now contain fifty cases of chronic hyperplastic sphenoiditis all confirmed by the X-ray. The unilateral ones are especially interesting because the radiogram shows the lesion in the sphenoid upon the side of greatest contraction.

The Granger line has been the means by which many unfortunate sufferers were given permanent relief.

Dr. Jos. D. Martin (New Orleans): I am the confrere referred to by Dr. Granger in his excellent paper tonight.

A diagnosis of sphenoiditis was made on me by him. Since having my sphenoid washed I am very much better; have gained seventeen pounds in past nine months and suffer but slight attacks of rheumatism at intervals.

A lady came to me with history of headache for 35 years. I diagnosed sphenoiditis and requested a picture by Dr. Granger. She said she had pictures by everyone but Dr. Granger and doubted if he were better than the others. I told her that unless Dr. Granger confirmed what I suspected I could not treat her.

She finally went to him and had my diagnosis confirmed. A large opening was made into the sphenoid, which was found to be completely closed by scar tissue from previous surgery. Suction was used and her headaches left her for a year when she returned and I enlarged the opening which was closing. Since then I have repeated the operation and she has been entirely free from headaches.

Dr. Amedee Granger (closing): I fully agree with Dr. Dupuy that the diagnosis of hyperplastic sphenoiditis is very difficult indeed to make by the routine rhinological examination, and it is for that reason that it should be supplemented by a radiographic study.

Our experience has convinced us that it is the most frequent type of sphenoiditis, and that this hyperplastic condition is responsible for the majority of the neurologies and neuritis in the head and neck. This diagnosis can be made almost invariably by a careful study of a good radiograph made in our position. We have studied a number of cases at the hospital by the methods of Pfahler who places the film in the mouth and directs the rays through the vertex; of Pirie who causes his patient to place the mouth held wide open on the film and directs the rays through the vertex and at the angle which will project the shadow of the sphenoid into the open mouth; of Hirtz of France, who places the chin of the hyperextended head on a film and directs the rays through the vertex; and found that our method gave the best results.

SURGERY OF THE PERITONEUM.*

E. M. HOLDER, M. D.,
MEMPHIS, TENN.

Surgery of the peritoneum is interesting, and it is age-old. Alonzo C—— in the early history of medicine advocated the use of opium, as you know, and it passed down through the archives of medicine and surgery, as so many so-called facts which have a spark of truth in them, and has been repeated from time to time in the new editions of works on surgery. Of course, that was erroneous; we do not believe that opium should be given today in any inflammation or infection of the peritoneum. But these errors creep into medical history and are rehashed from time to time. I do not suppose that all the gentlemen here would agree with me that they are errors, but that illustrates the idea expressed by some that every text-book in medicine ought to be burned, allowing us to start all over again. Alonzo C—— advocated the use of salines, and so did Lawrence Tate.. Who gives salines today for infected peritoneum? Nobody. Lawrence Tate thought he had a 100 per cent. cure for infections of the peritoneum in salines. That is another error.

It might be well to begin the discussion of this subject by speaking of the anatomy and physiology of the peritoneum. The peritoneum, as you know, is a serous membrane made up an endothelial coating and a basement membrane. That is the anatomy of it. Its physiology is excretory and secretory. That is enough. One would not think in looking at the human frame that the peritoneum represents a little more surface area than the skin on the surface of the body, a little more than 17,500 square inches. Every organ of the body is covered by peritoneum and when it is stretched out it is an enormous surface to excrete and secrete—and that causes the trouble. None of the organs are lying in the peritoneum, they are all outside of it, but they are covered by it and, anatomically speaking, are extra-peritoneal.

Now what happens when the peritoneum becomes invaded, when it is insulted? There is no such thing as an etiologic infection of the peritoneum; it is traumatic. These infectious bacteria damage the peritoneum and it is traumatic in that sense. The peritoneum absorbs very slowly, and as we go along with the physiology we can understand why it is valuable that the peritoneum will not absorb exudates except very slowly. If it did not we would all die of peritonitis because of the amount of toxins we would absorb; but Nature comes to the rescue and when the peritoneum is inflamed and an exudate is thrown out, the lymphatics and blood vessels are involved, but it is amazing how little the peritoneum will absorb in this diseased condition, and yet in its normal state it is wonderful how much it will absorb.

Now this membrane which has power to secrete, a protecting membrane and an absorbing one, what are we going to do with it? It is really the defense of the abdomen. We all know how a man will have a chill, high fever, a drenching sweat, from a little infection of the biliary tract, or of the kidney; but the same amount of infection in

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

the peritoneum would probably produce no reaction whatever except a little rise in temperature. We all know that the prick of a needle in operating certain kinds of peritoneum has more dangers for you than the general infection has for the patient. That is because of the wonderful excretory and protective powers of the peritoneum.

The logical reasoning then is along the line of what Nature does—that is what we should follow in the treatment of these conditions. When a fistula goes through the duodenum it immediately contracts and for five or six minutes nothing can get out of the stomach—some say as long as two hours. That is what happens when this inflammation begins, there is a contraction of the peritoneum, of the fistula, and there is an attempt to shut off everything in the way of infection and poisoning. What kills the patient in infective peritonitis? Is it the toxemia, is it bacteria? Is it not the same thing that kills in intestinal obstruction, when poison is generated in the duodenum and upper jejunum? I think it is. The ordinary infections and bacterial poisons that occur in the peritoneum are not dangerous; the peritoneum takes care of them. But when you get an infection of the peritoneum that is sufficiently extensive to produce infectious obstruction, then you get a generation in this toxic zone of a poison that is intense and a menace to human life.

What do you think about the ureteral tube? A tube has been put in the duodenum and poison generated in the peritoneum and patients have recovered. It is not the poison in the peritoneum that kills the patient; it is the poison above. Several operations have lately been devised, for instance, introducing about midway in the ileum a 20 to 24 French catheter, held in the gut by a double purse-string suture and brought out through the incision, and through that tube the gut is irrigated every two hours with water and a saline and one or two ounces remaining in the gut. Then others have gone further than that and

have done a jejunocolostomy in which the transverse colon is anastomosed and an opening made and drainage secured from the colon to the jejunum. Some have done not only a jejunocolostomy, but they have introduced into the cecum a Paul's tube, getting all the drainage possible through this tube in addition to the jejunocolostomy. That is not all. Others have thought that infection gets into the human system through the lymphatics (and it does largely, but not altogether), and that the drainage of the thoracic duct and the left side of the neck would obliterate this poison before it has time to affect the patient, and just as soon as ileus begins an opening is made in the neck, the thoracic duct is opened and drainage is made through the neck. Experimentally that has proven satisfactory in dogs. The appendix and mesentery have been tied off, but in all cases these dogs have died except where the thoracic duct was drained. But humanly speaking, it has not been very satisfactory. Several hundred cases have been tried, but it is rather a tedious process and one that you hesitate to undertake unless you are familiar with the anatomy of the thoracic duct, which is very small and straw-colored and very yielding, and when you come in contact with it, unless you know just where it is anatomically, you sometimes do not get it right. That probably precludes it from the service of the average surgeon, and certainly from that of the internist who has to deal with these cases first.

Now what has to be done? Nothing very astonishing. The poison is taken up from the duodenum and upper jejunum and through the peritoneum in general passes into the blood stream, and the idea is to head it off before it gets into the blood stream—divert it. What is a practical way to do that? The first plan was the Ochsner plan. Up to that time he had lost almost 100 per cent. of patients, so he devised the plan of putting the patient in the Fowler position, giving him proctoclysis with

saline solutions, nothing by mouth, absolutely, not even a drop of water. The patient was made fairly comfortable and in that way he saved 20 per cent. of patients who were operated afterwards. Our late esteemed and wonderful teacher, John Murphy, followed the same principle, except that he advocated operation in cases where you could locate the focus of infection. Ochsner did not even want to do that; he thought if the infection was generally diffused you had better stay out. Murphy proposed a little more modern plan, and that was to arrive at a conclusion if you could as to what the focus was in the particular case and eliminate that, so that the feeding of bacteria into the peritoneum could be stopped, and then go ahead with the Murphy plan.

What do we think about all that? To begin with, many of the modern writers tell us that proctoclysis is not proper, that it increases the pain, increases the peristalsis, and you know you do not want to do that. That is Nature's way of curing these conditions and if you interfere you will get into trouble. Proctoclysis increases pain and peristalsis and extends the avenues of infection because if it is not absorbed at all it irritates the colon. Why do you want to inflict the patient with proctoclysis when you can get the same thing under the skin and be sure it is absorbed, as many as 4,000 cc. a day—in 24 hours. The patient needs water, but why depend upon proctoclysis which is very uncertain? Why not get away from the Ochsner plan?

What about the opiates? They are all right in the beginning, but to use them as Crile does. He cannot get the nurses to give opium—he has to give it himself. They are afraid to do it, so I am told. When you do that you are interfering with the defensive properties of the peritoneum. In other words, putting the peritoneum out of commission. Those who have given thought to this subject say it is not a good thing.

What about the Fowler position? They all agree that that is the proper position, because they say along the diverticula the peritoneum is more sensitive to infection and the longer the patient can be kept quiet the better.

How about purgatives? No one gives them now. What about feeding? It is absolutely taboo.

But you have a patient on whom you have not operated, and the patient is getting worse. You are a surgeon, and it is sometimes harder not to operate than to operate. My contention is that you should operate, and operate before your patient has a diffuse septic peritonitis. Someone has said that it is safer to operate a diffuse septic peritonitis than a gangrenous appendiceal abscess. Murphy told us that. He told us that when these adhesions begin in the spleen, when you break them up you get an exudate, and when you open the lymphatics the chances for infection are enormous. I read a few days ago where a prominent surgeon said that there is more danger in taking out a clean appendix in the presence of blood clot in the abdomen than a gangrenous appendix without a blood clot. That is reasonable, because in the gangrenous appendix without blood clot you have no nucleus for infection, and with the clean appendix, if you will examine the forceps, or the sutures, microscopically, you will find bacteria, and bacteria with the blood clot will do more harm than bacteria from a gangrenous appendix without a clot. My contention then is to operate early.

What is the plan of interference? A quick operation through a small incision, walling off the appendiceal abscess, or taking it out, very little drainage, practically none—in most cases you do not have to drain at all. I am not advocating the absolute abandonment of drains, but they have done a lot of harm and have produced adhesions and obstruction and sloughs, so that surgeons today are tending to get away from drainage of the abdomen. Quick

operation through a small incision, no manipulation whatever. If there is any pus in the pelvis, let it alone; it is bactericidal. If the gut is infected put a hole in it and put in a tube, and quit at that.

But suppose you find pus down in the pelvis and above you find bacteriological serum, what will you do? Both Ochsner and Murphy would make an opening in the abdomen and put a drain in the pelvis, but it did not do any good. The thing to do is to reduce abdominal pressure, and when you do that the patient shows improvement. Blake said he could save more patients by putting the tube into the mouth of the small gut than by any other drainage. Avoid multiple drainage tubes; avoid getting between the coils; and infection—let that alone. Simply put in this one tube in order to reduce the intra-abdominal pressure, and if you do not want to do an operation put a tube in the peritoneum and drain so as to prevent ileus from killing the patient.

DISCUSSION.

Dr. E. C. Parker (Gulfport): We have listened to a very able lecture on the peritoneum. I want to thank the doctor for the good thoughts he has given us. The only comment I have to make is that he did not lay enough stress on the excessive amount of fluids needed for the patient to help dilute the toxins. I believe in giving fluids, intravenously if necessary, proctoclysis, or any way to dilute the toxins, and I am rather partial to glucose and soda proctoclysis to combat the acidosis that is set up in a great many of these patients. That is the great thing—dilute the toxins and prevent acidosis.

Dr. M. L. Flynt (D'Lo): It is with a great deal of hesitancy that I attempt to discuss a paper read by such an eminent surgeon as Dr. Holder. But I would like to say that Dr. Holder has brought a very favorable paper and there are two points in his paper which I wish to stress. The first is the use of hypodermoclysis. In this condition these patients are usually begging for water and their tissues are depleted and we believe that hypodermoclysis is the best and the quickest method of putting fluids into the tissues. The next point is the use of the duodenal tube. I believe we save many of these patients by this procedure. You can never tell what is going to happen when you go into the abdo-

men. I heard my friend, Dr. Shands, make this remark once and it made an impression upon me: "You may go in for just a simple appendix and your patient have peritonitis or post-operative ileus and give you a great deal of distress and it is in these cases that the duodenal tube serves its purpose and many times I believe we can prevent these distressing post-operative conditions by simply passing the tube down into the stomach and leaving it there for several hours and allowing the patient to drink water and at the same time let it syphon back through the tube, it will at least give a great deal of comfort to the patient and many times I believe save our patients." I thank you.

Dr. H. A. Gamble (Greenville): Everything that can be done for the alleviation of an infected peritoneum should be done. There are a few measures, however, which I have found have given us much better results than we formerly had from the use of the generally accepted methods of treatment, and particularly do I wish to refer to the question of posture. I believe, as Dr. Holder says, that if drainage does not keep up any length of time thereafter, the best thing is to place the patient in position in which everything in that abdomen will be drained out at once, and if you take the Fowler position you cannot drain the pelvis, not having the lowest point below the point of drainage. If you turn the patient over flat on the abdomen you will drain everything in there. I believe I have gotten good results by adopting this measure, and we do it as a routine in all cases of general peritonitis.

Another thing is the intravenous use of glucose solution. I do not know of any measure that is more life-saving in any toxic condition, whether general peritonitis or obstruction, than the use of glucose intravenously, depending upon the condition of the patient whether a 10 per cent. solution or a 5 per cent. is used. It is the best diuretic we have, and we have adopted it as a routine measure in peritonitis; before the patient leaves the table the glucose solution is started.

Another feature is the use of the duodenal tube. These three measures as additions to the treatment of general peritonitis or any intra-abdominal lesions associated with toxæmia, add very materially to our success in the treatment of these conditions.

Dr. M. Q. Ewing (Amory): I regret that Dr. Holder did not have time to finish this subject. It is a subject that every surgeon is interested in. We probably lose more patients from peritonitis than any other cause.

One thing I would like to add to what Dr. Holder has said is that wherever possible in peritonitis do your operation under local anaesthesia, and the extent to which you can operate under local is far greater than the medical profession as a whole believes. There are very few intra-abdominal operations that cannot be done under local anaesthesia. Of course there are some few, and those we have to consider. If you operate for general peritonitis under local—you do not always know what you are operating for,—that is, the cause, and you can start under local, and if you find something that cannot be handled that way you can go on to a general anaesthesia. The reason I believe this is because more than 80 per cent. of deaths from peritonitis are directly the result of ileus and alkalosis with it, which you attempt to combat with hypodermoclysis and the duodenal tube. This ileus sometimes develops after going into the abdomen under general anaesthesia, but it is more likely to occur in the presence of peritonitis. Ileus is not so common under local as under general, so I would advise the local as an additional factor of safety in these cases.

Dr. Carroll W. Allen (New Orleans): It is indeed a great pleasure to have discussed the classical literature on surgery of the peritoneum and I heartily endorse everything Dr. Holder has said.

It is immaterial we find whether we use glucose or salt in our hypodermoclysis. These are details the doctor could have elaborated if he had had time.

We have made some very intensive studies of this condition in New Orleans and there will be something in press shortly from myself and associates on duodenal dilatation in this condition. We found that the higher up the intestinal tract the obstruction takes place, the greater the toxicity. That is a fact that is not original with us but has been well demonstrated by others.

Dr. Flynt in discussing the use of the Jette tube in the stomach spoke of giving the patient water to drink. That is a mistake,—to give them water. Put the Jette tube in and allow it to remain, but no water. You will get a certain amount of reverse peristalsis from the duodenum which you can siphon out, but never put water in. If Dr. Holder's idea is to give water by means other than the bowel, I think that is correct.

We have reached the time in medicine where we are giving more and more thought to the fundamental things that are at the basis of medicine. The men who went to school in my time

did not know much about physiology and physics and chemistry; we are badly handicapped. The men today we insist must have a certain fundamental training, a certain time spent in these branches. One of the greatest books written by anybody is Hilton's "Rest and Pain." You will notice that every one of the pathological processes taking place in nature is a splint—that is, what Nature does in peritonitis, and that is why Crile in his great physiological survey says his opiates are a therapeutic splint for the abdominal cavity. Nature throws out an exudate around the peritoneum; wherever the peritoneum comes in contact with something it splints the endothelial cells. There is very little absorption. The mouths between the endothelial cells and the lymphatic channels are closed and absorption does not take place. These pockets are very aseptic. Very often going into acute peritonitis early you find fluid. It is not pus, it is leucocytic fluid. A little later this fluid between the coils may be sterile.

I do not believe in drainage unless you are confronted with serious and radical infection, and then by the smallest possible stab wound. The fact that nature has splinted the abdominal cavity means that there is very little in any chance for an opiate, and if you will do what you can to keep peristalsis inside you will get better results.

You will find that Hilton's book, "Rest and Pain," and the thought Dr. Holder has brought us will go hand in hand.

Dr. E. M. Holder (closing): I saw a little monograph by a man, who probably is the outstanding surgeon of England today, if not of the world, in which he said: "I have never seen in my experience a patient die of appendicitis who did not have purgatives, food or water." That is a pretty broad statement, but if it is true then we ought to have 100 per cent. recoveries. But here is what happens. Before you are sent for the mother gives the child castor oil—the very thing she should not do. We did not know that for a long time. Then she gives the child food, which keeps up the peristalsis; and water, which also aids peristalsis. Nature is trying to shut off and localize the abscess, and she is doing everything possible to spread it. The surgeon did not mean that these cases do not come to operation, many of them, but they are localized abscesses, and all you have to do is to make a little incision, take out the appendix, and the patient gets well.

These attacks in the upper abdomen that bring about peritonitis require surgical interference—cholecystitis, acute pancreatitis, duodenal ulcer,

etc., all require prompt surgical interference. Do not wait for peritonitis; do not wait for the ulcer to shoot out—begin before the diffuse peritonitis comes on. I would not close the abdomen with a lot of gastric contents, blood or feces, but I would close it with serum and pus and anything else that is thrown out by nature, except ruptured viscera. A man who closes the abdomen with a blood clot in it, even in ectopic pregnancy, is a tyro. You can flush them out, make everything perfectly sterile and they will get well, but leave a clot of blood in there and that is all you need for a culture medium. Get the pelvis clean.

Further on down in the pelvis the peritoneum is not closed in the female. It is closed in the male, but in the female you get pus tubes and things of that kind. That is not emergency surgery; let it alone. In puerperal streptococcal infection no surgeon can operate; let it alone and it will localize and then take out the pus tubes, close up without drainage, and you will not have a reaction of any kind. If it is tuberculosis, let it alone. Pneumococcal infection—let it alone. It will take care of itself until you get a localized abscess, maybe. Infection from malignant disease—the focus of infection must be removed, and unless you can remove the focus of infection the peritonitis is usually secondary to the original cancer.

What are you going to do for your patient? Tell him what the condition is, when you have any knowledge of the origin of infection. If it is ulcer, close it up; if it is an appendix, take it out. Make a small incision under local anaesthesia, if you like, but I would rather have general. Make a small incision without traumatizing and bruising the tissues.

MULTIPLE CARPO-METACARPAL DISLOCATIONS.

WITH THE REPORT OF A CASE.

WALDEMAR R. METZ, M. D.

(From the Surgical Service, U. S. Marine Hospital No. 14.)

NEW ORLEANS.

Complete multiple dislocations of two or more of the metacarpal bones at the carpo-metacarpal articulations are unusual entities. Despite the frequent accidents to which the hand is subjected by reason of its manifold activities and its almost constant exposure to violence, this variety of



Fig. 1—Lateral view, before reduction.

trauma is rare. In a review of the literature of the subject, one is immediately impressed by its paucity and by the scant number of cases which have been recorded. A rather extensive investigation indicates that complete dislocation of the metacarpal bones is met with very infrequently.

Isolated, individual dislocations of each of the metacarpal bones, with the exception of the fifth, have been reported, the first metacarpal most often. This paper is confined to the discussion of complete backward, dorsal displacement of the four inner metacarpals,—second, third, fourth and fifth, with the report of a case.

Stimson, in his textbook on Fractures and Dislocations, cites but four instances where this condition was met, three by other authors and one case in his own experience. Besides these I have been able to find but two more, one by McLean (A. M. A., 1922), and one by Carter (Wis. Med. Jour., 1924). It is of course entirely possible that there are a few others, classed under different headings, which I was unable to locate, but at best the incidence must be very small. This makes but six cases previously reported, and with the addition of my own case, which I shall presently describe, the total reaches seven. Of the six case-reports three appeared in foreign journals and three in the medical

press of this country. Five of the seven were backward, dorsal dislocations: two were forward displacements.

Considering then, the commonplaceness of injuries to the hand, one naturally asks for an explanation as to the infrequency of this condition. The essayist is of the opinion that the answer is to be found entirely along anatomical lines.



Fig. 2—Lateral view following open reduction.

The metacarpal bones form the framework of the hand. They are curved slightly toward the palmar surface, and their narrowest diameter is at about their middle. They articulate at their bases with the bones of the carpus by an intricate, multiple faceted arrangement which makes this articulation one of the firmest and most secure in the body. Furthermore, these bones are bound into a unit by a web-work of interosseous muscles, which permits little individual bony movement. To the bases of most of them are attached extensor and flexor tendons which further stabilize their position. Because of their bowed nature and the fact that the weakest portion is at their mid-point, and because of the firm articulation at the carpus, any pressure exerted upon the heads of these bones results usually in fracture, the break taking place at the point of least resistance, which is the middle of the bone.

It seems necessary, therefore, that to produce this character of injury, the hand

must be in the position of flexion, the force being directed backward and upward. Another factor, perhaps, might be a predisposing weakness, or subluxation at the articular junction. This view seems to be warranted by the fact that recurrence appears to be the rule, rather than the exception.

CASE REPORT.

History—The case to which I wish to invite attention is that of a male adult, Mr. A. V., aged 33 years, a native of Chile, and a seaman by occupation. He was admitted to the U. S. Marine Hospital on June 1, 1925, presenting an injured hand and giving the following history: At about noon of the same day of his admission, while at work on his ship, he jumped into a hatch which was covered with tarpaulin, and which he thought was supported beneath by boards. No boards were present, however, and the patient fell into the hold, striking with great force on his right hand and side. He did not recall the position of his hand when he fell. His chief complaint on admission was great pain and swelling of the right hand, inability to move the fingers and pain in his back and right hip.

Physical examination—There was nothing in his general examination bearing on his present trouble. The right hand was swollen to three times its natural size, the swelling being more pronounced on the dorsum, but also quite noticeable on the ventral surface. Voluntary movement of the fingers was impossible and passive movement was very painful. Examination of the dorsum of the hand revealed a very definite and distinct ridge or elevation corresponding with the bases of the second, third, fourth and fifth metacarpals which apparently lay over the first row of carpal bones. There was exquisite sensitiveness on pressure over this protrusion which was entirely immovable on manipulation. No crepitus could be elicited. The wrist motion was undisturbed.

Roentgenograms read by Doctor E. R. Bowie showed a backward dislocation of the entire carpus.

Closed reduction under anesthesia was attempted without success on two occasions, once by my colleague, Dr. E. S. Hatch, and once by myself. Open reduction was then decided upon as the only logical procedure, the bases of the metacarpals being apparently hooked over the first row of carpal bones.

Operation—There being no standard approach described for this condition, the operative tech-

nique was improvised to meet the existing conditions. A U-shaped incision was made, with its convexity toward the arm, about one-inch proximal to the dislocated bases of the metacarpal bones, and the skin flap was thrown over the dorsum of the hand. The soft tissues were incised in a curved direction about one-half inch distal to the line of skin incision so as to prevent healing of the operative wound in the same planes and in an effort to avoid cicatricial contracture which might affect ultimate function. The hand was forcibly flexed by an assistant and the carpo-metacarpal joint exposed. A flat, wide, bone skid was inserted diagonally between the base of the fifth metacarpal and the bodies of the unciform and pisiform bones with the idea of reducing all four bones en masse and not interfering with their integrity as a whole. Using these two bones of the carpus as a fulcrum and including the bases of the other three metacarpals, leverage was firmly made, and after several attempts, complete reduction was secured. Closure of the soft parts was made with interrupted sutures of chromic No. 1 cat gut, alternate silk worm sutures and 00 chromic cat gut for skin approximation. Drainage was not used. An anterior and posterior molded plaster of paris splint was applied for purposes of immobilization. Skiagraphic report the following day showed complete reduction.



Fig. 3—Anterior-posterior view showing dislocations before reduction.

The wound healed by primary union. The silk worm sutures were removed on the sixth day. The hand remained swollen for some two weeks, the patient still complained of pain on attempted motion of the fingers, which I interpreted as being caused from injury to the tendons, with consequent inflammatory exudation into their sheaths. Passive motion of the fingers was begun early, as was physiotherapy in the form of dry heat, but intense physiotherapeutic measures



Fig. 4—Anterior-posterior view following open reduction.

were not attempted as early as indicated, for fear of bringing about a recurrence of the dislocation, such as that noted in previous case histories.

The patient remained under observation for some five months, with no recurrence and when last seen had about completely regained the function of his hand.

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DISCUSSION.

Dr. O. C. Cassegrain (New Orleans): It is with considerable interest that I listened to Dr. Metz's admirable paper.

Its great attraction was not only the very excellent result he obtained, but also the fact that it dealt with such an unusual surgical entity.

It is deplorably true that not enough of the rare cases seen in medicine are reported. This is partly due to timidity on the part of some, and partly because having but one or two cases to report others do not deem it wise to report them. The whole profession is thus at times deprived of very useful knowledge.

I am sure we are all indebted to Dr. Metz for reporting this case to the Society. His description of how he solved the problem that confronted him and of the technique he followed in reducing this formidable type of dislocation was most clear and forceful and must be of great value

to any of us if we are ever called upon to treat such a condition.

But I think the chief lesson to be learned from his paper is this: That we must not lose too much time nor traumatize further an already badly traumatized hand by strong efforts at closed reduction. The articulations of the hand are so strongly knit and the fruitless efforts of two experienced surgeons (Drs. Metz and Hatch) should teach us that if after one or maybe two trials under anesthesia we fail to reduce the dislocation, we should no longer traumatize the hand but work at once to the open reduction as performed by Dr. Metz.

I agree with the essayist that the reason why this type of dislocation is so rarely seen is due partly to the peculiar anatomy of the metacarpal bones and also to the fact that to obtain these posterior locations you must have the hand fixed so that the force may be transmitted upward and backward. Now this is a very unusual position for the hand to be, in a fall, for instinctively we extend the hands, palms down, to protect ourselves when about to fall.

During my five years, from 1921 to the present, when I have been in charge of the out-door colored surgical clinic at Charity Hospital, I have not seen a single case of posterior carpo-metacarpal dislocation. In looking through the records of the hospital (out-door service) from 1918 to present, I failed to see a single case recorded.

I wish to congratulate Dr. Metz, first for presenting this rare case and secondly for his magnificent result and also the membership for their good fortune in having reported such a rare surgical condition.

INCREASING INSANITY IN THIS COUNTRY AND WHAT SHOULD BE DONE TO PREVENT IT.*

JNO. N. THOMAS, M. D.,
PINEVILLE, LA.

I have been frequently invited by the membership of this splendid Medical Society to read a paper at one of its meetings and it now gives me pleasure to accept your invitation. This paper deals with such an important subject, one much in the minds of the people of the state at

this time, that I have endeavored to present facts and figures in order that you may get a better understanding of the subject and it may therefore be a little longer than the average medical paper, but I hope you will bear with me to the end of its reading.

I have been Superintendent of the Central Louisiana State Hospital for nearly eighteen years and have had the opportunity of seeing and studying mental disease in all of its aspects. I have seen this institution increase in population from 404 in 1909 to 1140 in 1926:

Population of the Hospital, Jan. 1, 1909.....	404
Admitted from Jan. 1, 1909, to May 24, 1926	4,329
Total number under treatment	4,733
Of these, 2,534 were discharged or 53.5%	
Of these, 1,030 died, or 22%	
Of these, 1,130 remaining, or 35%	
On hand Jan. 1, 1909	404
On hand May 24, 1926	1,130
A gain of 728, 179% increase, or an increase of 10.9% per year	

These figures will indicate to you the rapid increase in the number of the insane in the thirty-seven parishes of the state that send their patients to the Pineville Institution, and it will also show you the volume of work done at this institution. I dare say that the same ratio of increase will apply to the other institution of the state at Jackson. The question for this great increase will at once arise and one that I am often asked: "What is the cause?", and I will tell you at once and frankly that, in my opinion, between sixty and seventy-five per cent. is directly due to heredity. This condition does not apply to Louisiana alone, but is common in every state in the union.

The noted evangelist Billy Sunday, who seems to have somewhat studied this question and gathered statistics on the subject, said in a lecture in Shreveport two or three years ago, that if the present rate of increase of insanity in this country, is not

*Read before the Shreveport Medical Society, Shreveport, La., July 6, 1926.

stopped, the whole American people would be insane in four or five hundred years.

The next most reasonable question to ask is: "What can be done to prevent this steady and alarming increase in mental disease and degeneracy?" There is no medical treatment *per se* for mental disease. Care in the way of food, plenty of it, raiment, nurseful attention, occupation and diversion through amusement are what is now being done in the best institutions of the country. But, this sort of treatment does not and never will lessen the constantly increasing number of cases. Then, what will? Sterilization will, beyond question or doubt, and it can be done without undue risk to human life and without serious discomfort or ill effects beyond the impossibility to pro-create the species. The question of the annual increasing expense to care for these unfortunate people will in itself soon compel drastic action for the relief of the taxpayer.

The segregation of the feeble-minded has been talked of and recommended in some quarters, but on account of the great cost, it is out of the question. The late Dr. Evans, Superintendent of the Colony and Training School near Alexandria, told me that he estimated that there were eight thousand feeble-minded in the state. I think his estimate is low, but even that number to segregate, cannot be considered on account of the cost, which would be over a million a year. Even if the cost did not make it prohibitive, the length of time to confine these feeble-minded women would make it impossible. The average child-bearing period of a woman is thirty years. Think of confining these women, several thousand of them, from puberty to the climacteric. It is impracticable and unthinkable.

Insanity is no respecter of person, state or condition. It invades the home of the rich and poor alike. It dethrones governments and often pauperizes the rich, either thorough profligacy of its kindred victims,

or the futile attempts made at cures. Who is it that has not heard of the number of derelicts in the Hapsburg family of Austria? Who is it that has never heard of the grandiose ideas of the late Emperor of Germany? Even in speaking of the Deity, it is said that he always said, "Me and God." Does anyone think that he is a normal man? What a pity he was not sterilized at puberty, if so it can readily be believed that we never would have heard of the railroad from Berlin to Bagdad, nor have had the great war and the great German people would have been spared the loss of blood and money and obloquy, that has befallen them. He has all the symptoms of paranoia. Now follow the line of heredity: Does anyone believe that the late crown prince is fully normal, and therefore sane. He has all the symptoms of a paranoid dementia praecox case, and should have been sterilized for the benefit of humanity.

To be specific, I have asked Dr. David H. Keller, the medical director on my staff, to prepare and give me some data on his study of heredity in our hospital, and here is his report:

I had the honor of joining your staff of physicians on the 20th of March, 1919. Since that time I have assisted in the examination at the bi-weekly staff meetings, of 2,334 patients. While the information we receive from the coroners and families was often vague and incomplete, it is my personal opinion that of these 2,334 patients at least 60% have a psychopathic family history than can be proven, and I believe that in at least 15% more the psychopathic heredity would be shown if we could obtain the actual facts. This makes a total of 75%.

On the white female service, of all the cases admitted from 1906 to 1911, we have still remaining 86 patients, who are stated to be either insane, feeble-minded, or epileptic. In other words, 86 Louisiana families had 261 persons who were abnormal mentally, and a charge to the state, or an average of over three to the family.

Approximately 1700 white women have been admitted from 1906 to 1926. Of these there are still remaining in the hospital 304 patients. Of these 161 have positive heredity or 53%. These 161 patients had 313 insane relatives. One hundred and sixty-one Louisiana families have 474 insane members, or approximately 3 to a family.

Many of these families run very high in the number of defectives. At one time one family had 16 members either at Jackson or Pineville. Seventy-five of this family are stated to have been insane since the Civil War. Another family has had 15 cases in Pineville and Jackson. Among these is a mother and five of her daughters. A family has recently been reported where an old imbecile man has over 100 descendants, and everyone feeble-minded.

Frequently it is very difficult to obtain the real facts due to the unwillingness of the family to disclose them. In one case a family history of insanity was denied, and only by accident did we obtain a history of 14 cases of insanity in this family, from the hospital records of another state.

Our case No. 30 had a father, mother, brother and cousin insane. Our case No. 171 had father, mother, four sisters and two aunts insane. Our case 1200 had father and mother feeble-minded, and two cousins insane. Our case 130 is an idiot. She had feeble-minded parents, one sister and one brother are idiots, two cousins insane, and three cousins epileptic. Such records could be given for many pages. These are not isolated cases, but simply gathered from the routine hospital records.

It is my opinion that no one who has worked for years among the mentally defective can help but believe in the influence of heredity as one of the main causes of insanity, feeble-mindedness and epilepsy. The demands made on the state institutions of Louisiana for the care of such cases is greater than can be provided for without the constant expanding of our institutions. Unless something is done to prevent this

increase the state will be unable to finance the care of these unfortunate people. The logical thing would be to attack the problem at the source and prevent, as far as can be, the future birth of defective children, from known defective parents.

So much for the record and statistics of the Central Louisiana State Hospital at Pineville, let us read the record and statistics of the East Louisiana State Hospital at Jackson. I am permitted to do this by Dr. T. J. Perkins, the able superintendent of that institution, where over twenty-four hundred patients are now being treated. By the way, in passing, let me say that Dr. Perkins and myself working entirely independent of each other, he getting the statistics from the parishes of South Louisiana, including the City of New Orleans, and I getting statistics from the thirty-seven parishes of North and Central Louisiana that send their insane to Pineville, came within nine-tenths of one per cent. of each others figures. He getting the rate of increase in South Louisiana at 10 per cent. and I at 10.9.

I shall not consume your time by going into the various laws governing heredity, but will deal more with facts and figures as I find them on the wards and in the records and patient's histories in the East Louisiana State Hospital.

I shall deal with the economic side of the problem. The records of the East Louisiana State Hospital show that the population of that institution is increasing at the rate of 10% annually. The State of Louisiana is spending enormous amounts of money for the care and treatment of the mentally diseased, the feeble-minded and social delinquents. There has been nothing spent nor have there been any material steps taken for the prevention of these conditions. It is an unquestionable fact that the fundamentals of the mind are begotten with the body and largely pre-determine character and conduct.

The Mendelian law has proven to the satisfaction of students of sociology that the fundamentals of the mind that are begotten with the body is a cellular condition that is transmitted by inheritance and one that can be controlled.

We have on the wards of the East Louisiana State Hospital today, 131 patients who bear the following relations, each to the other:

We have 16 mothers with three sons and fifteen daughters, one father and one son, one father and one daughter, 12 brothers representing 6 families, 45 brothers and sisters representing 21 families, 14 sisters representing 7 families, 8 first cousins representing 4 families, and 2 aunts and 21 nieces.

In selecting at random 746 histories of patients who are now inmates of the East Louisiana State Hospital, there was a direct history of insanity in the families of 28.4% of that number.

I have selected the histories of certain family names that have come down through the institution since its establishment. The families that I am going to give you now are a few illustrations of many that can be found in the records of this institution.

No. 1. *A white family.*

Has had 17 members in the hospital at various times since 1861; there is one member in the hospital now. Adding the total length of time spent in the hospital by the various members of this family would give 99 years, 7 months, 12 days; placing the cost of care and treatment of this family at what it is costing us today for the maintenance and treatment of this family at what it is costing today for the maintenance and treatment of these people, it would amount to \$22,609.54.

No. 2. *A colored family.*

Fifteen members in the hospital from time to time since 1880, 3 members in the hospital now. Combined time spent in the hospital by the various members of this family would give 85 years, 10 months and 6 days. The cost estimated at the present rate for maintenance and treatment would be \$19,425.22.

No. 3. *A white family.*

Twenty members in the hospital since 1878; six members in the hospital by the various members of this family amounts to 141 years, 4 months, 29 days; estimated cost to the state of caring and maintaining members of this family at the present rate of maintenance would be \$32,000.68.

No. 4. *A white family.*

Eighteen members in the hospital from time to time since 1852. Six members in the hospital today. Total combined time in hospital by various members of this family, 185 years, 1 month and 1 day; estimating the cost of care and treating this family at the present day rate amounts to \$41,884.72.

No. 5. *A colored family.*

Fourteen members in hospital since 1881. Three members in hospital now; total time in hospital 59 years, 1 month; cost of care and treatment \$13,357.28.

Nine (9) families have had a total of 123 members in the hospital. These nine (9) families are represented in the hospital today by 25 members. Combined length of time in hospital by these families would be 677 years, 8 months and 9 days. Cost of care and treatment of 9 families at the present day rate would amount to \$153,359.48.

There is one patient who has been in the hospital 47 years, 10 months and 15 days; one for 40 years, 1 month and 8 days; one for 40 years, 4 months and 2 days. The combined length of time that these patients have been in hospital amounts to 128 years, 3 months and 25 days. The cost of care and treatment of these patients at the present day rate amounts to \$29,037.60.

A patient who has been here 54 years at the present day rate would have cost the state \$12,220.20.

A negro man who has been in the hospital 46 years and who is hale and hearty today, at the present rate of maintenance, would have cost the taxpayers \$10,409.80.

To show further that the care and treatment of the mentally diseased is an increasing economic problem, I wish to submit

these figures, taken from the records of the East Louisiana State Hospital.

The appropriation for maintenance, building, improvements and repairs for the biennial period of 1924 and 1925 amount to \$1,108,839.74. The total expenditure for maintenance, buildings, improvements and repairs from 1891 to 1925, inclusively, has been \$8,271,952.49.

These figures show the necessary expenditure of East Louisiana State Hospital alone and do not include the expenditure of the Central Louisiana State Hospital or the State Colony and Training School. They show conclusively that the care and treatment of this unfortunate class of people is an increasing economic problem and one that reaches the hearthstone of every taxpayer. The solution of the problem lies largely in the hands of the lawmakers of the state. The increase in mental disease and mental deficiency is partially due to the increasing population and the greater nervous tension that advancement in civilization has brought to the life of every individual; but these elements fade into insignificance when compared to the influence of social diseases, alcohol and the perpetuation of the blood lines of the mentally and physically unfit. Just so long as the laws of the state, either by failure of enactment or execution permit the last three named causes of mental disease to prevail, just so long will children, increasing in numbers, be born in the state who have been robbed at their conception, of the impelling force that drives to perfect mental and physical development.

I talked to Judge Harry Olson, Chief Justice of the Municipal Supreme Court of Chicago, on his recent visit to New Orleans, and who is perhaps the best posted layman in America on mental diseases and especially so on the relation of insanity to crime. I know that he is a firm believer in heredity and also in the sterilization of human derelicts to prevent their procreation.

All who have given this great question thought and consideration, believe that it will take about three generations, say 60 years, to accomplish big results, but all agree that a start should be made in the interest and uplift of the unborn millions of the human race.

The operation of sterilization is known as vasectomy in the male and salpingectomy in the female. Over four thousand seven hundred (4,700) cases have been operated upon in the State of California since the sterilization law went into effect without one unfavorable result.

The sterilization law is now being enforced in the State of Nebraska and from 80 to 100 operations are annually done in the state hospitals for insane in the state with not one bad result reported. The law has been recently upheld by the Supreme Court of Virginia after a test case was brought before the court and sterilization will again proceed in that state.

The statistics gotten by Dr. Perkins and myself prove beyond doubt that insanity and feeble-mindedness are increasing at the rate of 10 per cent. per annum in Louisiana.

Let us see what can be said on the subject nationally. I hold in my hand the report of Dr. Horatio M. Pollock, Director Statistical Bureau, State Hospital Commission, New York, which gives the federal census report of 1923 and it shows and states that mental disease is still increasing over the entire country. The length of this paper precludes my quoting at length from this report but I will read you a few statements. In concluding his report, Dr. Pollock asks this question:

"What is the outlook for the future of mental disease?"

And his answer is as follows:

In view of the facts presented it would be rash indeed to prophesy that the promised land of mental health lies just ahead.

It seems to me that the journey to that land will be a long one and that there are some real as well as imaginary lions in the way.

Before we can expect much reduction in mental disease, we must have more research to find out what should be done and what should not be done to preserve mental health. We must have better facilities to disseminate the principles and facts relative to mental hygiene that we now know and will discover, and we must have aggressive action to put into operation the instruments of relief and prevention now within our reach.

Heredity is an immutable law of nature and this fact should never be lost sight of in dealing with the problem of the feeble-minded and the insane, and as it is the main factor in the increase in all mental disease, for the future protection of the human race, laws should be enacted and enforced to prevent the procreation of the species. Let the law be passed, and if necessary, let be tested in the courts and it can be amended if necessary, as occasion demands. Let it be thoroughly understood that the operation for sterilization does not in the least destroy the sexual function of either male or female. It simply definitely and positively eliminates the possibility to procreate the species.

Dr. J. S. DeJarnett, of Virginia, one of the best known psychiatrists of the South, makes the following statement: "If heredity, alcohol and syphilis can be controlled, we will stop building hospitals for the insane and dependents, and many of these institutions already established will be deserted in two or three generations."

In conclusion, I want to quote you the following verses by the same author:

MENDEL'S LAW.

A Plea for a Better Race of Men.

Oh, why are you men so foolish—

You breeders who breed our men,
Let the fools, the weaklings and crazy

Keep breeding and breeding again?
The criminal, deformed, and the misfit,
Dependent, diseased and the rest—
As we breed the human family
The worst is as good as the best.

Go to the house of some farmer,
Look through his barns and sheds,
Look at his horses and cattle,
Even his hogs are thoroughbreds.
Then look at his stamp on his children,
Lowbrowed with the monkey jaw,
Ape handed and silly and foolish—
Bred true to Mendel's law.

Go to some home in the village,
Look at the garden beds,
The cabbage, the lettuce and turnips,
Even the beets are thoroughbreds.
Then look at the many children,
With hands like the monkey's paw,
Bowlegged, flatheaded and foolish—
Bred true to Mendel's law.

This is the law of Mendel,
And often he makes it plain,
Defectives will breed defectives
And the insane breed insane.
Oh, why do we allow these people
To breed back to the monkey's nest,
To increase our country's burdens
When we should breed from the good and the best.

Oh, you wise men take up the burden,
And make this your loudest creed,
Sterilize the misfits promptly—
All not fit to breed.
Then our race will be strengthened and bettered
And our men and women, too, blest,
Not apish, repulsive, and foolish,
For we should breed from the good and the best.

THE RELATION OF THE SANITARY INSPECTOR TO COUNTY HEALTH UNITS.*

H. C. PUGH, M. D.,
YAZOO CITY, MISS.

Some difficulty is generally experienced in determining the class of personnel which should be employed in county health departments operating with limited budgets.

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

Omitting the details of this question,—in the final analysis the selection of personnel should depend wholly on the problems presented and the amount of money available to deal with them.

There must, of course, be a directing head, commonly called the health officer. At this juncture it is desired to comment on the term "health officer." It is suggestive of power vested in a high class policeman rather than that of a professional educator and sponsor of the general well being of the people and industrial development of the community, and in the beginning, with the persons less informed in public health measures, who are generally in the majority, the aim is largely defeated or the progress so handicapped as seriously to interfere with the organization of a smooth running and efficient health department. People object to being made to do things for which they do not fully comprehend the reason, and the insinuations which the term "officer" carries with it seem, as mentioned above, to create resentment rather than to encourage co-operation. Why not then apply the term "health commissioner," or some other equally constructive title, to the directing head?

To resume the main subject, the writer is fully convinced that it is not reasonably possible for any county health department to be organized and operated adequately and efficiently until it has first been determined what are the outstanding problems and upon what class of personnel the success of the undertaking will ultimately depend.

In the counties of this great commonwealth will be found varying problems in public health. It is true that Mississippi is classed primarily as a rural state. Agriculture has been, and still is, largely the backbone of the state's resources. But a new day has dawned, and Mississippi is not approaching, but has actually reached, its era of industrial development. How

many in this audience are conversant with the vast mineral resources of the state; of the rapid strides being made in transmitting hydro-electric power, and of the potential hydro-electric projects within our borders? With the coming of cheap electric power into an era where coal or other fuel is not found in paying quantities, industry has a chance to develop and compete on a basis theretofore unknown.

Reforestation and protection of the young timber, now definitely decided upon, opens the doors to added manufacturing with suitable power. Cotton mills, furniture and paper factories, mining enterprises, and many kindred and other industries are now within the grasp of the people of this state.

The raw material is abundant. The labor with its true American ancestral strain is unparalleled. Many present know of the recent blow which struck the oyster industry, and a lesser number are acquainted with the facts which surround the development of dairying or the problem at present from which this most remunerative class of business is suffering.

Into all enterprise, and most important of all, is the human element. The South has suffered on account of its supposed or actual health conditions. It is only reasonable that those interested in industrial development should consider the environmental conditions affecting a desirable and uninterrupted labor supply. The latter is largely dependent upon public health.

Historical facts, as well as present day observation, demonstrate that when men congregate in communities there is presented a sanitary environment vastly different from that of the nomadic race or sparsely settled areas of years ago. With the present day methods of transportation the man from the country is enabled to, and does, take a more or less active part in community affairs.

The relation of sanitary environment to the well being of the state is readily grasped, and the necessity for the practicing of practical sanitary measures equally understood. With the importance of those measures of preventive medicine which come wholly within the sphere of the licensed medical director fully appreciated, and the necessity for this professional directorship understood, there are in the main those phases of field sanitation which when put into operation have a lasting effect and upon which the actual success of public health work largely depends.

Maternity and infant hygiene, the finding and correcting of defects by the regular examination of school children, the use of vaccine and sera where only such process of control is known, or their use as a temporary expedient to prevent epidemics. Quarantine and isolation, are measures which are not considered to be a part of this discussion.

Considering certain diseases,—typhoid fever, dysenteries, hook worm, pulmonary tuberculosis, malarial and dengue fever, we enter into the realm of applied field sanitation. Cures of any or all of these diseases can be effected, but as a public health measure their prevention rests primarily with sanitation.

How best can the sanitary disposal of human excrement be handled, and water and milk supplies protected from contamination? In what manner can proper housing be brought about, and what are the best methods to follow to obtain mosquito control? Under certain conditions some of the above come completely within the sphere of the engineer. But following the main line of thought, particularly adopted, in connection with county health units, are the services of trained sanitary inspectors.

Here again is used a term with the definition of "policeman." A sanitary inspector, so called, possibly by virtue of vested authority, is placed at a disadvantage, and if there is any one who less needs to dis-

play a badge or be expected to carry a Colt .45, it is the individual engaged in health work. Sanitary laws are ample and health workers should be authorized to enforce them, but great care should be exercised and the "chip for the shoulder" left at home in the ice box. Educational work is the basis of the success of any health work.

The class of personnel depends on the major problems presented. While the proper place is available for each grade of health workers, the problems in field sanitation are so far reaching in their effect and of such immeasurable importance that the health department having such major problems can not profitably exist without the aid of personnel fitted to handle such problems. After the foundation is laid, the oyster and dairying industries must necessarily be given sanitary supervision and the employment of health officers is not to be thought of for this grade of regular inspection work.

Contingent with industrial expansion, and the present agricultural development, is sanitation, and effectively to combat those conditions of public health which are presented from time to time there must be provided the class of personnel whose services can be best adapted to the problem.

DISCUSSION.

Dr. J. B. Black (Tupelo): I do not know of any member of the health department that is quite as important as the sanitary inspector. The part of the work which he does is the part that the medical man ordinarily dislikes. Most physicians do not like to go into grocery stores and point out to the man that he is not doing certain things; they would let the man get by with these conditions and the first thing we know he will be running his business in such a condition that there will be danger of spreading disease through his uncleanly habits. The sanitary inspector can better do that than the medical man. Furthermore, if a man is director of a health department, whether he be a full-time man or a part-time man, there are many things to occupy his mind that will keep him from being an efficient inspector. If you have to examine school children, if you have to look after infectious disease, and direct a general educational program

on public health, you cannot have much time for going around to inspect grocery stores, meat markets, slaughter houses and places of that kind. That should come in the work of the man who is paid for that work alone. The medical man's salary is much more than that paid the sanitary inspector. If you have a very extensive amount of general public health work you do well to take care of the other work and let the sanitary part rest with the sanitary inspector who has had more or less training in that work.

The problem of rural health—the small town and rural district, is one that warrants the full-time activities of a man who will look after that work. It is a problem that should keep a man busy, and yet not many men in the average county will properly look after the sanitary side of the home in the small town and rural district. Most of our typhoid fever comes from the small town or rural district. Most cases of typhoid that occur in Jackson, where we have a good water supply and a fairly good system of disposing of human excreta—give a history of having been on a visit in the rural districts or small towns where sanitation is neglected. Recently in Hinds County we undertook to examine some shallow wells and springs that are along the main thoroughfares of the county, wells that people pass especially when they are out driving on Sunday. We have examined a number of these wells and found very few of them that do not show contamination with human excreta, showing what a great opportunity that is for people driving on Sunday to come in contact with foci of infection and come down with typhoid. That emphasizes to my mind the work of the sanitary inspector, not only looking after the homes of these people as to the disposal of human excreta, but also urging them to install a safer water supply for their homes. That is a great work for the sanitary inspector—he can be kept busy all the time.

We have had the attitude heretofore that just any kind of a man could be a sanitary inspector. I am glad that Dr. Pugh brought out that point that it is not the man of the ordinary police force type that makes a good inspector, but it is the man with common sense and tact who can approach people and persuade them to institute these sanitary measures. It is an educational process, and no one can go out and fight people and get much done in a sanitary way. It takes a man who is well trained, has lots of common sense to carry on a program of sanitation and get over to the people the necessity of making the environment of their homes sanitary.

Dr. J. M. Kittrell (Laurel): Dr. Pugh in his paper mentioned the educational side of sanitary

inspection, and Dr. Black touched on that question. You know that the laymen in Mississippi, and everywhere else for that matter, believe in sanitation these days, but as a general rule their ideas are all wrong about what is important and what is unimportant in sanitation. The average layman when he thinks of sanitation, or of a sanitary inspector's business, thinks of screening fruit stands, brushing down cobwebs and a few things of that kind, and forgets entirely our gigantic problem in the South, and that is the filth-borne diseases. That makes it all the more important that the sanitary inspector be a man who along with making a good inspection can put over to the laymen the idea of what sanitation really means. In other words, making the other fellow see it in the light that the health workers and medical men see it. I remember asking Dr. Applewhite how a certain new man was getting along, and he said, "He is all right, but he is misled entirely. He is down there inspecting fruit stands instead of telling the typhoid story." The sanitary inspector must know the typhoid story and be able to put it over to the other fellow.

Dr. J. K. Fulsom (Raymond): I would like to emphasize a point in Dr. Pugh's paper bearing on the qualifications of the sanitary inspector. I think the general public is rather turning to the social type of sanitary inspector, not a sanitary policeman, and to my mind the quicker the active field workers get away from that idea that the inspector is a police officer, so to speak, and change to the right view that he is really and in truth, and should be, a sanitary instructor, the better results will they obtain for their effort. I have had some experience in health work and the longer I work the more I am convinced that there is no health work done that is worth while unless it is based on sound and fundamental instruction in the homes. It is no use to tell John Jones that if he does not make his home surroundings sanitary the law will get him, and not tell him why. But if you tell John Jones that he gets protection from certain filth-borne diseases, that his surroundings will be more pleasant, a better place in which to live and rear his children, and that the expense for this improvement will be merely nominal—to use a well-worn phrase, sell him sanitation—then when he gets that you will not be bothered with John Jones' house any more.

It may be you will find people reluctant. As a Mississippian I want to say that we have the best people on earth, but the slowest to change their ideas. They are fond of saying that the conditions that obtained in their great grandfather's times are good enough now. But in the light of today's knowledge and experience in public health work we know they are wrong.

Furthermore, the sanitary inspector to my mind represents a connecting link between the county health officers and the people. Naturally the duties of the county health officer are so numerous that he cannot get out into the field, consequently the sanitary inspector should be a man of such judgment, knowledge and experience as will enable him in a subordinate way to represent the county health officer to the people.

Public health work depends on money, and to get money we have to prove to the people the value of public health work; then we will get an appropriation, we will get co-operation, and we will accomplish much more than has been done in the past.

Dr. H. C. Pugh (closing): I only wish to emphasize one point. The sanitary inspectors throughout the entire State, as we all know, crave a certain amount of knowledge and are always looking about for something new. Unfortunately, however, is the fact that the literature available to the sanitary inspector, treating of his problems, has been written for physicians, and therefore is too deep for the inspector. Little or nothing has been written on the problems with which he is in daily contact.

To the county health officers present, I would like to say that the amount of knowledge your inspector takes into the field with him, is the exact ratio to the knowledge you place at his disposal, the amount of interest is a reflection of the enthusiasm, the energy and the interest with which you imbue him.

I thank you gentlemen for the opportunity of presenting this paper.

VITAL STATISTICS AND COMMUNITY PROSPERITY.*

W. H. ROBIN, M. D.,

Superintendent of Public Health,

NEW ORLEANS.

Vital statistics, although a trite subject, and one of too little attractiveness to most persons, has been chosen by me, because I believe its importance in relation to community prosperity has apparently not sunk in to the understanding of most individuals. Only the personal bother of doing one's part in the accumulation, and not the more

remote realization of the benefits to be derived from vital statistics, is considered.

Vital statistics is a specialized outgrowth of the census which in different forms has existed almost as remotely as history records. From time of utmost antiquity comes the record of gathered information as to population, wealth, etc., of races and communities.

In Jewish, Chinese, and Egyptian history there are rather numerous evidences that considerable attention was devoted to the collection of information relating to genealogy and population. Much greater attention was paid to gathering information of economic value as a basis for taxation, etc.

It is apparently authentic that during the Babylonian captivity a very thorough register of the population of each clan was kept by the Israelites and published in a compiled form on the return to Jerusalem.

The first definite approach to what is our present concept of vital statistics was made in modern times in Europe.

Sweden, near the end of the seventeenth century, legalized and made "compulsory the parish records of births, deaths, and marriages kept by the clergy—extending it to include the whole of the domiciled population of the parish." This system was adopted in Canada,—in New France; and shortly after in France.

I might state here, parenthetically, that in Louisiana as well as in other of the earlier settlements of the Southern United States these records kept by the clergy have been religiously cared for, and have been of incalculable service.

In New Orleans, where the records of the St. Louis Cathedral have antedated our civil collection of marriage, birth, and death records, they have been most jealously and carefully preserved, and have been frequently referred to, and recognized in courts of record. In the pre-

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

servation of racial purity and in the establishment of ancestry and legitimacy they have been the source of priceless and, otherwise, irrecoverable information.

Banks are judged and get their rating by their published sworn statements. The value and credit of countries, states, and cities are arrived at by a study of their financial statistics. Countries and cities where the outgo exceeds the income: where there is no growth in wealth: where industries decline and failures predominate, are soon classed as undesirable places for investment or residence.

Where no adequate financial statements or records are available, the presumption is against a community or a business: no financier would invest in a business or community which could not furnish an adequate statement of affairs. So it is with regard to communities in relation to vital statistics.

People do not settle in, or invest in, a community with an unsavory reputation as to health. Where no adequate statistics exist the presumption,—and usually the correct one,—is that they are not kept and published on account of what would be their unfavorable character. Where no regularly published and authenticated history exists rumor and gossip take its place. One case of infectious disease, one death, or one instance of illegitimacy may be spread by the tongue of Dame Rumor into an epidemic, a cataclysm, or a moral inferno.

The individual doctor, midwife, nurse, undertaker, or layman who does not realize and do his duty in regard to vital statistics is as dishonest and culpable as would be a pilfering embezzler or careless employee in a business. He is cheating his community, sinning against his home.

The flagrant and palpable disregard of birth reports of a few, even with the widespread system of registrars and the bonus has kept our state out of the registration

area for births, has added a stigma and meant increased disrespect for our state, especially in view of the fact that Louisiana, in 1920, had the highest illiteracy rate of all the states of the union. This latter fact was due chiefly to the large negro population, but unthinkable or uncharitable critics might easily associate the neglect of birth registration with a community indifference as to the future of our children, begun with neglect at birth and continuing with neglect in education.

In my own City of New Orleans we have endeavored strenuously to improve the birth registration and recordation and the results have been gratifying. When we went into office in the year 1925 there existed about 500 unregistered births (no transients). These have been practically all cleared up and during 1925 this number had been reduced to less than 100. New Orleans, I am sure, is eligible for both the birth and death registration privileges, and if the rest of the state was as well recorded Louisiana would be easily in the registration area.

I have written this commonplace and humble paper not in the hope of producing a masterpiece but out of a sense of duty, to call attention to the injustice and harm which is being done our state which has not been admitted to the registration area for births and is now threatened with removal from the registration area for deaths. This sad state of affairs is not blameable on the Health Department which has unstintingly labored in this cause, but is due to the irreparable and unthinkable individuals who fail to do their duties.

DISCUSSION.

Dr. J. E. Doussan (New Orleans): Mr. Chairman and Ladies and Gentlemen: On Wednesday having wasted my fragrance on the desert air I hoped that today I might be permitted to blush unseen and to fade away from the landscape, but the reading of this paper reconciles me to life, particularly as it affords me the opportunity to pay a compliment during his absence (if he were here I would not do so) to an old

college friend with whom I studied medicine at Tulane University. Dr. Robin is the registrar of vital statistics for by far the largest area in the State of Louisiana, the Parish of Orleans.

On the whole the Parish of Orleans is reporting well. I am not at liberty to name the power that took the check but we recently had the benefit of an informal check which leaves no doubt that the State of Louisiana remains in the registration area. For those who do not know the meaning of the words "registration area," it might be well for me to explain them to you.

A federal registration area is one recognized by the federal census bureau in which not less than ninety per cent of the births or deaths are reported. A state may be in one or both areas. If 90 per cent of the births are reported in that state it is in the birth area; if of the deaths then it is in the death area.

In the matter of births in the Parish of Orleans, the reportation of births in the Parish of Orleans is doing very well. The slight discrepancy in the nature of bookkeeping is being blotted out and we will soon be in position in the central bureau in New Orleans to have a transcript of very nearly every birth occurring in New Orleans. In the matter of deaths, the registration in New Orleans is 100 per cent (applause). And it is on account of that magnificent score that the state as a whole contrived to score over the ninety per cent mark.

Now Dr. McMullen alluded too briefly (I wish Dr. McMullen had had more time) to a very important problem, and that is the parenthood of America. What is the parenthood of America now and what is it going to be in the future? We have in this country a melting pot of nations. We have the school, we have the theater, we have the community playground, we have the dance hall, we even have the jail. All those are melting pots. But the greatest of them all is the bridal chamber and the crux of this amalgamation is in the cradle of America.

Now then, if we are interested in maintaining our civilization, if we want to know what course it is taking, if we want to be in a position to know what remedies to apply, to prevent it from going in a wrong direction, we must have a complete record of the fruit of this parenthood, and that is the birth certificate.

Dr. Dowling's splendid exposé of the benefits deriving from the operation of the Shepard-Towner Act in Louisiana forces this thought upon my mind: this is an act which provides that federal government shall match dollar for dollar with the states. A state sets aside a sum of

money and with that in hand goes to Washington and says, "Here is our part of the fund." Congress gives us the share of congressional appropriation to which we are entitled.

Gentlemen, those in charge of federal bureaus always adhere to the letter of the law. They try to crystalize the spirit of the law when they come to executing it. If the time comes in the future when with our appropriation from Baton Rouge in hand we go to Washington and we say, "We demand our fifty-fifty from you," and if they take this view of it and say, "How many babies are born in the State of Louisiana," and we are not even in position to tell them, what is the outlook? The time may come when we will be refused federal alimony on the grounds that we don't even know where the babies of Louisiana are being born, nor how many of them are being born, and so are not in a position to give them the benefits deriving from the operation of the Shepard-Towner Act.

The material benefits accruing from full reportation of births and deaths and disease are enormous. Vital statistics are a stock-taking of a commonwealth. Unless we know how many births have occurred in our midst, how many deaths have occurred in our midst, we are not in a position to know the growth of population. We don't know our very best assets, our whole people, all of the elements of our population. Exact vital statistics are therefore an absolute necessity from the governmental standpoint.

I am sorry that more of the gentlemen who are in bitter opposition to a plan which I submitted last Wednesday are not here today. I congratulate those who are present. They are evidently the "bitter-enders."

You heard stand up just now a gentleman who is commissioned out of my bureau, who told you of the enormous, the almost insuperable difficulties of obtaining complete reportation of vital statistics under our present law on account of local political reasons. These local political reasons will continue to obtain indefinitely. The campaign now in behalf of better reportation is largely one of education and of moral suasion. If those who are in charge of the same are able to convince the doctors the greater part of the work is done.

I want to say to the laymen present and particularly the ladies, don't forget that the birth certificate is a birthright of the newborn child and a most valuable asset and the physician and midwife who do not offer a birth certificate to such a child are doing it positive hurt, an injury to his country, to his state, to the family and to the newborn child itself. (Applause.)

Dr. Thos. E. Wright (Monroe): Dr. Robin's paper is especially fine. Its value has been considerably enhanced because he had such a good reader to read it for him.

The matter of reporting births and deaths is one that should be very dear to the heart of every honest, honorable-thinking physician, and yet at the same time, among our prominent physicians as well as surgeons of the State, we have some men who are grossly and you might say almost criminally negligent in doing this.

I happen to know very well a physician who last year was checked up and found to be fourteen short on death certificates which he had not reported. The undertaker who handled the funerals for him under the law could not handle a funeral without a death certificate. This was reported to the State Board of Health which board in turn took it up with the doctor, the district attorney, etc. The information coming to me was that the undertaker reported this: that he made every reasonable effort and more than reasonable effort to get these things signed up, without any result whatever.

It is to be regretted that intelligent, high-class doctors should be so particularly negligent about a matter so important. I have some statistics from Dr. Dowling's paper just now. In 1925 there were 42,120 birth reported. Now we know, according to records, statistics we have gotten from places other than Louisiana over long period of years, about how many births may be anticipated for 1,000 population of a given county, parish, or state. This is in round numbers twenty-five out of each 1,000 inhabitants. Last year we came just a little bit under the requirements which would have placed us in the birth area. There was reported in Louisiana eighty-nine per cent of the amount which should have been reported, when ninety per cent would have placed us in the birth area.

That is one reason we are making such a specially heavy drive during 1926 so that we may get into that area, and we hope for all time keep us in this birth area. In other words, in place of being twenty-five per thousand which should have been reported only 22.3 per thousand were reported in 1925.

With reference to mothers and fathers not in the profession, and who are present at this open meeting, every child born into the world is entitled to have its birth recorded. There is a kind of sacredness about a thing like that which comes to the doctor only after he has gotten accustomed to having these recorded and signing the certificates.

I know a doctor who lives in this town whose reporting of births has gotten to be a kind of a hobby.

He is with the mother when the baby is born and if he sees two or three children about he asks whether the others are registered. A letter to Dr. Douson's office and in a few days information comes back that say two are reported and one is not. He has the other reported and signs for the doctor, per himself. Often the mother puts them into a sort of a little panel, birth certificate for Johnny and Mary and Sue and Henry and the baby. Those are nice little things to do; sentiment we may call it, but such sentiment should be a part of every high-class doctor's practice.

Dr. C. P. Gray (Monroe): Mr. Chairman, there is a combination of circumstances which prompts me to say something, notwithstanding that I did not hear all of the paper or the previous discussions. But pertaining to the reporting of vital statistics, there are several things that prompt me to say something at this time. Not only from my professional capacity as a physician as to why the births and deaths should be reported, but from my official capacity as coroner of this parish, I want to try to bring before this audience one or two or three reasons as to why it is absolutely necessary.

Just before I left my office I looked up a letter in regard to a child who was born here in 1914. This letter came from a lady who is now living in Cincinnati. It was received by me last year. Her child was ready to enter some school in that city and before that child could enter school she had to have a certificate from her physician or from the State Board of Health certifying to the fact that she was born on such and such a date and that she was vaccinated on such and such a date.

Now in 1914, Dr. Dowling, you remember how it was in our state at that time. There was no record at the State Board of Health that this child had ever been born. The way that I found the record of this child's birth was by associating the name of this woman and where she lived. I had never reported it.

Then another phase that presents itself as most important is as regards life insurance. If you will permit me to relate one incident, this coming in my official capacity as coroner. About two years ago a gentleman was reported to me as having died at such and such a rooming house in this city. On investigating as the coroner is supposed to do, I found several little memoranda in that man's notebook. It developed later on that the man was worth about \$30,000 and had a bank account up in Arkansas, one in Texas and liberty loan bonds deposited all over the country. It finally resolved itself down as to when that man was born before the life insurance company would

pay one five cent piece, or before his estate could be settled.

Dr. Frank J. Chalaron (New Orleans): The value of vital statistics is so apparent that I can hardly add anything to it except to give a trite example. No farmer who holds a pedigreed bull or a pedigreed boar would fail to register the offspring of that boar or that bull. That means money in his pocket. That same farmer should require that his doctor register his child. It is a question, as Dr. Gray has said, of the greatest value in obtaining and collecting life insurance. European communities do it. Their registration is 100 per cent. Because they need men for cannon fodder and a man's date of birth means that he comes up for a class in these countries where military service was compulsory at a certain time. For that reason they established it and kept it 100 per cent. We should do it for better and higher ideals. (Applause.)

Dr. Oscar Dowling (Shreveport): In connection with what Dr. Gray said about the lady from Cincinnati, the law provides that if the doctor is living he can make the certificate at any time and have it recorded. If the physician who attended the mother at the time of birth is not living, secure a reliable record, copy and send it in. If two or three individuals who were present at the time the birth occurred can be located, get this record and send it to the State Board of Health and it can be returned to you as a certificate of birth. Take myself for instance, just six years ago my birth was recorded and carried on that basis. (Applause.)

THE PRESENT TREND OF SCIENTIFIC MEDICINE AS RELATED TO THE RURAL PRACTITIONER.*

R. C. ELMORE, M. D.,

DURANT, MISS.

On the cover page of the *American Medical Association Bulletin* for November appeared the following quotation from H. W. Davis in the *Kansas Medical Journal*: "A *Country Doctor Defined*":

"If you can set a fractured femur with a piece of string and a flat-iron and get as good

results as the mechanical engineering staff of a city hospital, at 10% of their fee;

"If you can drive through ten miles of mud to ease the little child of a dead beat;

If you can do a podalic version on the kitchen table of a farm house, with husband holding legs and grandma giving chloroform;

If you can diagnose tonsillitis from diphtheria with a laboratory 48 hours away;

If you can pull the three-pronged fish-hook molar of the 250-pound hired man;

If you can maintain your equilibrium when the lordly specialist sneeringly refers to the general practitioner;

If you can change tires at 4 below, at 4:00 a. m.;

If you can hold a chap with lumbago from taking back rubs for kidney trouble from the chiroprac;

Then, my boy, you are a Country Doctor."

A recent issue of *The Saturday Evening Post* featured an article on "*Can the Village Come Back?*" accepting it as a fact that the country village is in such a state of desuetude that if it ever functions again as in days of yore, powerful methods of resuscitation will have to be brought into play. The country village is or was an institution and as such it has passed from the stage of action. Some of the reasons assigned are: The automobile and good roads, and the tendency of the public to take advantage of the rapid means of transportation to give them access to a greater variety of merchandise advertised to sell at reduced prices. Is the country doctor as an institution passing from the scene? And, if so, is it worth while for anybody to take cognizance of this transition? If remedial measures are to be attempted, who is responsible for their inauguration? The medical fraternity, who in an altruistic spirit, should feel the responsibility for caring for the health of the nation? Or the people, who, in the last analysis, will be the real sufferers?

That the country doctor as an institution is passing, none will deny. Recently the

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literature has been cluttered with argument, statement of facts, and statistical tables galore, showing that the rural population is even now in many localities suffering from the lack of medical attention, due to the scarcity of rural practitioners; that the average age of rural practitioners is, in most sections, between 50 and 55, showing that the younger graduates are locating in cities and medical centers, leaving the older men, with the bag to hold in the rural communities. This is based on the classification of the U. S. Census Bureau, which places everything from towns of 2,500 population and down, in the rural class.

Dr. William Allen Pusey in a series of articles in the *Journal of the A. M. A.* last year went into an exhaustive study of the situation and made recommendations based on his findings, the substance of which was that the standard of medical education should be reduced and the requirements lowered, so that there would be more doctors and more of the class to whom rural practice would appeal. A splendid treatise, well written, in a thorough-going analytical style, characteristic of this prominent leader in medical affairs; but in the light of all facts, and as a representative of that rapidly declining class, the rural practitioner, with all respect for Dr. Pusey, I wish to ask if his proposed curtailment of the requirements for a medical education is really the proper and sensible solution of this perplexing condition? True, there is much that is worthy of careful consideration in his position and his argument, but from the standpoint of all concerned, would it not be more in harmony with the high ideals of our profession to approach the question from another angle? For instance, he has in mind the need of the public and the fact that large numbers of our citizenship might suffer from lack of medical attention because of lack of numbers in the medical profession, if present conditions are not relieved. But would it not be more in keeping to determine first and foremost the exact amount of work required to turn

out an efficient practitioner—one capable of being entrusted with human life and upholding the high standards and traditions of the profession? If a mistake has been made in placing the standards too high, by all means, lower them, but if it takes 8 years of time, and \$10,000.00 in money to turn out the finished product, let's have it. Dr. Pusey's plan smacks of discrimination against the people in the country. One infers from a reading of his article that probably a 4 or 6 years man is all right for the country, but for the city and larger towns, the well-trained and highly-efficient medical expert is the thing. We should like to have him answer this: What will prevent this short-course man from spending 1, 2, or 3 years in the country, doing an enormous practice, gaining the experience and knowledge here that his shortened course deprived him of, hoarding his savings during these few years of country practice, and just as soon as he is financially able, pulling up lock, stock and barrel, and moving to the city—to the medical center—to that Utopia of all modern medical men. No, one standard for the country and another for the city, is not the solution.

Allow me to refer again to the article in the *Post*. The author maintains that the country village not only can come back, but is actually on the way, and in some instances has arrived, citing a number of small towns where some progressive individual with a vision has in a measure revolutionized the business methods of the country village, with the result that instead of several business houses carrying a varied assortment of merchandise, each merchant is specializing—one carrying shoes and shoes only—another clothing, and so on, emulating their brother merchants in the city by having at all times a full and well-assorted stock, attractively displayed and attractively priced. In other words, giving the people what they want. In the medical profession does the public want a short-course, second-hand doctor?

The answer is easy to any who has observed the trend of the times. But in the case of the medical profession, the public has a lesson to learn also. The burden is not entirely on the back of the profession, though they must accept their portion of it, and do their part. The public is to have some jolts before this matter is entirely adjusted, and first and foremost the task is going to be to impress the people with the fact that all learning, all medical lore, and the only relief to be found is not in the city and the medical center. Coincidentally with this lesson, they are to learn that if a competent physical examination and prescription in a medical center is worth from \$25.00 to \$50.00, it should be worth at least from \$10.00 to \$25.00 in the country. Some very important and very urgent schooling of the public along this line is needed right now. When this is accomplished, and the physician is assured remuneration in keeping with his outlay for his education and his ability, my judgment is that practitioners will not be so scarce in country districts.

The next consideration in this connection is the part the doctor must play in this process of education. First and foremost, he must learn that scientific medicine can be successfully practiced, with limitations, of course, wherever and whenever physician and patient meet, whether it is in one of the leading hospitals of a large city or in a cross-roads shanty. Along with our leadings towards ultra-scientific teachings by our leaders, there has naturally grown the belief among both profession and laity that laboratory diagnosis and all the procedures and paraphernalia that go with the so-called specialist, are the "sine qua non." This is a phase of the subject which should receive careful consideration in the propaganda or process of education of the public referred to. Let the country practitioner perfect his diagnostic technique along scientific lines, taking advantage of every advance in laboratory procedure of which he can make practical use. The average coun-

try practitioner does not need to maintain a laboratory capable of doing Wassermanns, frozen section work, blood chemistry, etc. It is not practical for the average country practitioner to do a differential blood count as a routine on every patient, but he should be able to do so on occasion, as in doubtful cases of appendicitis and other acute abdominal or obscure infectious troubles; in obscure cases of pneumonia, in incipient tuberculosis, and some other infectious and communicable diseases, but I repeat, it is not practical for him to do so as a routine in every case. He should be able to make both a chemical and microscopical examination of the urine and feces. He should not only be able to do chemical analysis of gastric contents, but he should also be able to do fractional analyses in selected cases. He should equip his office with a Dunning colorimeter and ampoules of sulphonephthalein for doing kidney function tests. He should certainly understand the importance and technique of the 24-hours specific gravity fixation test. He should know how to take nasal and throat swabs and culture the germs, and how to stain and examine the slides for diphtheria, but he must learn also not to depend entirely on the result of his or anyone's examination of a throat culture. No less an authority than Kerley says that if a case is clinically diphtheria, administer antitoxin at once and continue administering it if indicated, in spite of repeated negative slides. He should also have a working knowledge of the ophthalmoscope for the more common disorders of the eye. These are a few of the necessary procedures that every country practitioner should be familiar with, supposing, of course, that all are familiar with such common procedures as accurate blood pressure determinations, intravenous medication, hypodermoclysis, etc.

The history of medicine for the past 2,000 years is the history of human error and human discovery, both elements contributing in a measure to the material

advancement of the science. The question under discussion is more or less of an economic one, but is no less dependent on the above statement. We may have made an error in placing the standards of medical education too high, but it should not be counted an error if the only result arising therefrom—which result, by the way, is only an opinion—is the scarcity of rural practitioners. My humble judgment is that this concentration of medical talent in cities and medical centers is but one element of a general movement in that direction. What has become of the country village? and who can say that its elimination is due to the exacting preparation required of the village merchant for business? What about the problem of the country church? How can we charge its decadence to the high-priced schooling of those responsible for its carrying on? As I said before, I am at one end of this proposition for my viewpoint, viz: the environment of a country practitioner—while Dr. Pusey is at the other end—in one of our metropolitan cities.

But when the country doctor really wakens to his responsibilities and possibilities and meets them with confidence and ability and when the rural population comes to a realization of its duties in the nature of support—financial and otherwise—my judgment is that the problem will be solved. We are at this time passing through a period of readjustment—one of the evolutionary stages of progress. Before conditions settle down to a satisfactory working basis for all concerned, no doubt some will suffer—principally the people in the rural communities, but this will play its part in the readjustment that is bound to come. As I view the situation—Dr. Pusey has made a very accurate diagnosis of the situation—but it seems to me it is one of those conditions which cannot be relieved by one prescription for a radical cure—but rather in the nature of a self-limited affair which must run its course. We must endeavor to meet the distressing symptoms

as they arise and the best manner possible, and in addition to the measures already proposed, I predict that out of the readjustment, the various towns and communities in a county will have general practitioners whose duties by mutual agreement will be to specialize along certain lines—one will make a special study of obstetrics—another of venereal disease, and so on—taking special courses every year. There will be at least one good hospital in every county, equipped with a good laboratory with an efficient technician in charge, X-ray and physio-therapy apparatus, electrocardiographs, basal metabolism machines, and other apparatus, so that the up-to-date rural practitioner can take his patient to the hospital and treat him along scientific lines, and incidentally collect a fee in keeping with the work done and the services rendered. There will be one or more surgeons in each county who can take care of all emergency and other surgical work. The rural communities will have just as good medical and surgical attention as the cities and towns, and will be educated to pay just as good fees. When the automobile came, it was considered a rich man's luxury—suitable only for city dwellers—but see how the country people have been educated out of this idea, and how they are spending larger sums of money for transportation than formerly. They have reached the corresponding stage in paying for their medical attention, but they are going to the cities and larger towns to spend their money for it.

Dr. Rudolph Matas, in his presidential address at the meeting of the fifteenth annual congress of the American College of Surgeons, spoke along these lines and predicted that as an outcome of changing conditions, the family physician would be completely eliminated, and that a central communal hospital "staffed by a competent group of clinical and laboratory experts will serve as a safe resort for whoever may be in need of medical help, and that the new type of doctor will find his chief occu-

pation as a sanitary adviser and public health officer." Himself a surgeon, he seems to think that in the future, surgery "will assume the predominant role in treatment." At the same meeting, Lord Dawson, a prominent British practicing physician, spoke along similar lines, and urged for the future a hospital for every community, no matter how rural, maintaining that the family doctor should remain the foundation of medical service, but that his outlook, functions and training required modification to meet changing needs. He suggested that in the future, the doctors of a district should form themselves into a faculty which would place the varieties of knowledge and experience of its members at the service of the community—really somewhat a prototype of our group clinics.

Medical practice has changed and is changing rapidly and there does not appear to be a place in the coming regime for the family doctor of the traditional type. In the evolution and development of the practice of medicine, the general practitioner must either move with the times or disappear. In the dawning of the new era of the practice of medicine by specialists, group clinics and a new type of hospital, with the increasing development of good roads, and rapid transportation, there is no place for lowering the standard of medical education, and in my humble judgment, such a move will play no part in the transition from our present condition to the golden age in medicine when capable, efficient men with high ideals and a vision of service to their fellow-men, their country, and their age, will be organized so that none will suffer for lack of medical attention, and they may practice the healing art with pleasure and profit to themselves and satisfaction to the community.

DISCUSSION.

Dr. W. A. Dearman (Long Beach): I am not a specialist, nor a diagnostician or anything of that kind, but somehow in the past fifteen years I have had a tendency to be interested in diagnosis. No rational and scientific treatment can

be instituted for any condition until you have made a positive diagnosis, but I want to say that diagnosis does not consist of any one thing. I was surprised a few days ago when I began to index my records. I try to have a written record of each patient and know something about him. He is coming back some day, maybe in ten years, maybe in three months, and a systematic record that you can have on your desk is a good thing.

I practiced medicine in a small town in Mississippi, 23 years ago, for ten years—a poor town I am sorry to say—the poorest town in a poor poor county. One day I decided it was not the fault of the place, it was my fault—that I was rendering service commensurate with the remuneration I got for my services. Then I came to the conclusion that a doctor's success depends upon his knowledge, upon his physical capacity to put into motion his knowledge in the practice of medicine; then I came to the conclusion that the doctor never earns his bread until he has no teeth to eat it. A doctor in a poor community has not enough money to live comfortably, he cannot educate his children, cannot pay insurance, cannot meet the legitimate demands as an honest citizen, to say nothing of studying to acquire scientific knowledge, and I therefore said good-bye to the little town and went to a more lucrative center where I had an opportunity to rise to higher ground. I made up my mind that a doctor is entitled to a night's rest occasionally with no worry—mental and physical rest. The doctor in the country is on duty twenty-four hours a day. I have harnessed my horse seven or eight times in one night. I have waited on obstetrical cases, tedious and complicated and dangerous, away out in the country, at midnight, with no one to help me but an ignorant woman, no antiseptic precautions aside from a wash pan handed to me. I have given chloroform and had to deliver by forceps—the chloroform would give out and I would have to go back and get more. Under these conditions I practiced medicine for ten years.

One point the doctor brought out—that every county should have its hospital and let every doctor try to take his patients there. Sixty per cent. of cases treated at home have no ice bag, no clinical thermometer, and how can we carry on the practice of medicine under those circumstances.

The doctor charges what he is worth. He is worth what he charges, and if he charges \$100 he is worth \$100. But I believe we can live, we can survive. If not it is the practitioners own fault. We know we have hardships, and I think

there ought to be some men for night work. We cannot work 24 hours a day and be mentally and physically alert. No man can do that and keep up. He will begin to fag, his heart is bad, his blood pressure is high, until finally he breaks down. But the point I want to make especially is keeping records of your patients. I challenge any man, general practitioner or specialist, to practice medicine intelligently without a record of his patient's history and examination. Then we need the general physical examination from head to foot, and correctly interpreted; then all these correlated with the laboratory findings, when the report of the specialist comes back to you with all this data you can make a positive diagnosis, you can outline treatment, you can forecast the prognosis, and if you keep that patient under observation it will be the greatest satisfaction of all the activities of your professional life.

Dr. J. W. Barksdale (Jackson): Dr. Elmore's paper gives to me much food for valuable thought. I do not know that he is correct when he says that the day of the so-called country practitioner is past. Looking back upon my early days in the practice of medicine, as Dr. Bryan said last night, I can refer to many who were giants in the profession. I remember a paper read before this Association 25 years ago by our beloved friend, Dr. Ward, on the subject of diagnosis. He opened his paper with this sentence: "Diagnosis is the golden key that unlocks the treasure house of medicine." That is what these old men were believing in that day and it is what they were practicing. I sometimes think that with all the facilities at our command to aid us in making diagnosis—our ready access to laboratories, our reliance on the X-ray and other adjuncts to diagnosis—and mark you, they are adjuncts—we have lost those keener perceptions, those refinements of medicine without which no man can ever be a good doctor. We have lost the educated touch, we have lost sight of the fact that physical diagnosis is one of the most valuable aids, and while I do not suppose any man values the men in the laboratories and their facilities more than I, yet I do not suppose there is a man who puts less reliance in them when they come in conflict with the findings in the case—with the history and other things that aid in diagnosis. Nothing aids us more than what we receive from these adjuncts; but the man who is habitually a laboratory diagnostician is the man who makes many a failure in diagnosis and he is not a good doctor.

I am reminded of a story told some years ago by Deaver. There was an accident case in a little interior town in Pennsylvania and the doctor who treated the man who was injured,

was brought into court. The patient was suing some corporation, and after calling on one specialist after another, all of whom qualified as experts, the doctor under whose care the man had been originally, was called to the stand. Asking the usual questions the attorney said, "What is your specialty?" He said, "I have none; I am simply a doctor." "Well," said the attorney, "I wish you would tell the jury the difference between a specialist and a practitioner of medicine." The man replied, "I do not know what it is, except that it takes about nine of these fellows to make a real doctor." And that is true.

To go back to the men who were really leaders, I think I came along at a period when medical education had fallen to its lowest ebb, when all that was required for entrance to a medical college was the tuition fee. There were certain educational requirements that were said to be necessary to matriculation, but if they had been insisted upon a great many men would never have grasped the science of medicine because they had only the rudiments of a common school education. I have seen that period, but thank God it is past and gone, and I never want to see the degeneration of the medical profession because of lowered qualifications. This situation will adjust itself in some way. I have no solution for it, but I do know that the country will be supplied with the necessary number of doctors, and I want to say right here that I deplore this idea that the city is a better place for the doctor than the country. The average rural citizen is a man of a great deal of perspicacity. It is harder to get away with ignorance and carelessness in the country than it is in the town. Where there are masses of people you can fool them; but usually where there are only a few people you must stand on your own merit, honesty and real worth. So in my judgment, take him up one side and down the other, his honesty, his having to rely on himself, the cultivation of his physical senses, and the fact that he has no one to call on to help him, I think the country doctor is better than the average city doctor, and I think that is the explanation of his superiority.

Dr. C. A. Sheely (Gulfport): I am very much interested in this discussion this morning. As Dr. Dearman said, I have been all along the path, and as I see it we are all striving to improve our position; in other words, to be of more service to humanity.

I went along in the general practice until about 1912, when I read Dr. Billings' wonderful paper on focal infection as the cause of arthritis, and the mental diseases that came from focal infection; then the following year I was present

and listened to, Rosenow read a paper along the same line, and I thought our problem was solved. I was going back home to carry the good news to all the other doctors and we would get together and understand much of the pathology that had been worrying us in years past. But as you know, that was not the solution of our troubles. Then we found that as general practitioners we knew so much that we could not cover the entire field, so I said to some of the doctors, "If you will go away and take a course in this specialty or that, then I will throw some of this work to you and we will all come up together. We will join hands and solve some of these things that are giving us trouble."

Last year I had the pleasure of hearing Dr. Hunner's paper on ureteral stricture, and then I said to our urologist: "That is the explanation of all these troubles with chronic appendicitis cases that we have operated on, that have come back," and as one doctor said this morning, "Doctor, that pain is still there." The pain is still there because it was not chronic appendicitis in the first place; it was something else. Dr. Hunner told us that ureteral stricture is rather frequently, but not always, situated low down where the ureter empties into the bladder.

So as I look at it we have been glad to shake hands with the specialist. After a time I cut out obstetrics. I could not do a satisfactory surgical operation if I had been waiting on an obstetrical case all night; then I cut off the general calls, because as your practice increases in one direction you must curtail it in another, and so I had to get off into a little more distinct class. But the thing I want to emphasize is that the doctors should bring their cases of acute abdomen to the surgeon at once. Do not expect us to do miracles. Do not catheterize a woman whom you know has an obstructed bladder. Why not bring her to the surgeon and let him have a chance to clean it up.

Dr. R. C. Elmore (closing): I fear that Dr. Dearman missed the point entirely in my paper. He said he left Purvis looking for more fertile fields, and when he did, he did the very thing which I said Dr. Pusey's short-course country doctor would like to do—pull up as soon as he could and go to the city. In my paper, I endeavored to present a problem, and in applying it to Dr. Dearman's case, what about the people in Purvis, Who took care of them after he left? This one case is an example and a counterpart of many others, bearing out my contention that there is bound to be an adjustment of conditions, and that the people in the country districts must be educated to take care of a good doctor because he takes care of them.

I think Dr. Barksdale misunderstood me. I meant to say that the country doctor of the traditional type was passing; that is, the doctor that would put on his "specs," look at your tongue and tell you that you needed a "round of calomel."

Dr. Sheely chimes in with the rest of the specialists and admonishes the general practitioner to "get these patients to us in time." If a ruptured appendix comes in, he will do a skillful operation, of course; but if the patient dies, the country doctor gets the blame for not getting the patient to the surgeon in time.

LIVER FUNCTION AND GALL-BLADDER SURGERY.*

M. O. EWING, M. D.,

AMORY, MISS.

The gall-bladder is part and parcel of the biliary system and it is impossible to consider it aside from the liver and liver function. Our ideas of the physiology of the liver, which have persisted for many years, have recently been somewhat changed and augmented by late discoveries through experimental physiology. Radical changes in our ideas of the physiologic function of an organ immediately brings about the necessity for reviewing and revamping our beliefs of the pathology, etiology, diagnosis and therapy of the diseases of that organ.

The experiments of Mann, of Rochester, definitely prove that at least a portion and probably most of the bile is manufactured elsewhere than in the liver, and that jaundice rapidly occurs in hepatectomized animal. His experiments also show that the liver is the chief organ forming urea and destroying uric acid. Urea almost immediately disappears from the blood and urine and uric acid rapidly accumulate in the blood following hepatectomy. The experiments of Mann and Howell seem to show that the liver produces fibrinogen and that in cases of severe liver injury this

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function is impaired with resultant tendency to prolonged and severe hemorrhage. They also prove that there is considerable margin of safety of liver tissue in the body, in that 15% to 20% of the liver tissue suffices for body needs. This explains why it is that liver damage in many cases can progress exceedingly far before serious symptoms develop.

The experiments of Lyons, Swalm, Rowntree, Huntsley, Rosenthal and Rosenau concerning the detoxicating function of the liver give us many insights into the etiology of liver and gall-bladder disease. The liver is the great detoxicating organ of the body and acts to filter out or destroy the many poisonous substances brought to it through the portal vein and alimentary tract. Toxins and poisons formed elsewhere in the body are likewise carried to the liver for destruction or excretion. Then, too, the experiments seem to show that the liver acts in somewhat similar fashion in cases of bacteraemia. (C. G. Bull.)

Recent anatomic studies show a close relationship between the lymph drainage from the ileo-cecal region and the gall-bladder. Dr. Lyons, although accepting the consensus of opinion that "the law of contrary innervation of the gall-bladder and the sphincter of Oddi" has not been substantiated, still maintains the therapeutic value of the Meltzer-Lyons drainage of the duodenum. He explains the benefits claimed by him and other physicians using this treatment in therapy of the diseased biliary system on the grounds of a vicious circle of secretion and excretion of toxic matter in the bile and its reabsorption in the intestines, which the duodenal drainage interrupts. In his therapeutic experiments to prove his contention he makes the discovery that our past ideas of the amount of bile secreted in twenty-four hours are erroneous. In many cases he found the bile excretion approaching 2500 to 3000 cc. per day, rather than the 1200 to 1500 cc. which has been considered normal.

Other experiments by Rosenau and separately by McClure and Mendenhall, using duodenal tube to obtain the bile, have demonstrated that impaired liver function can be proved by estimation of the concentration of cholesterol, bile pigments, and bile acids in the bile. With impaired liver functions these normal constituents may be diminished to a trace or are even absent, and improvement in function keeps pace with the increase in percentage of these constituents. The Meltzer-Lyon drainage now stands in better light as a diagnostic rather than a therapeutic measure.

The experiments of Mann and his associates to determine the excretory function of the liver have shown that the liver excretes in the bile many substances introduced in the body through the alimentary tract, or intravenously, or hypodermically. Some of these substances are likewise excreted by the kidneys, but some of them, like tetra-chlor-phenolphthalein, are excreted solely in the bile. As a result of these experiments we have the Graham Test.

ETIOLOGY OF LIVER AND GALL-BLADDER DISEASE.

1. Infection and toxæmia arising in the portal area. Colitis, appendicitis, typhoid fever, dysenteries, and peptic ulcer give drainage of toxins and infectious material, either by way of the portal vein or lymphatics. Pyorrhea, alveolaris and tonsillitis also give rise to pus in the alimentary tract. And who of us has not seen jaundice as the outstanding symptom of biliary system damage arising during the course of these diseases?

2. Damage resulting from the detoxicating function of the liver. Poisons ingested into or arising in the alimentary tract are carried direct to the liver by the portal vein and the liver attempts, so far as it is able, to destroy or render harmless the damaging agent. If the poisoning is too severe or too oft repeated, damage to the biliary system will result. The effects of alcoholic and phosphorus poisoning and

constipation and incomplete bowel obstruction are examples of this method of damage. The toxin arising in the course of acute infections elsewhere in the body and the bacteria themselves in those diseases accompanied by bacteraemia; are carried to the liver for elimination. The biliary system may suffer profound damage as result. Who of us has not seen hepatitis with jaundice in pneumonia? A considerable portion of the salvarsan which we give is eliminated by the liver and occasionally we see evidence of liver damage as result. In this category we must also place the liver damage in the toxæmias arising from pregnancy.

3. Damage resulting from circulatory disturbance. The liver has a two-fold blood supply and any impairment of either the general or the portal circulation results in engorgement and stasis in the liver with impaired function and if long continued in permanent damage.

4. Excessive diet. The bile contains large quantities of cholestrin held in solution by the bile salts. It is the belief of many investigators that a diet rich in cholestrin producing foods may result in more cholestrin being produced than can be held in solution by the bile salts. One theory accounting for the occurrence of gall-stones postulates this theory of excess cholestrin in the diet.

DISSERTATION.

It is not the purpose of this paper to go into the symptoms, diagnosis and treatment of gall-bladder disease. However, the consideration of the recent experiments and our present views of the etiology of disease of the biliary system enhances the importance of certain facts to us as surgeons, and it is the purpose of this paper to enumerate those facts.

1. The gall-bladder is an integral part of the biliary system and does not become diseased independently. A diseased gall-bladder means a damaged liver, and the

damage may or may not be sufficient to show up on clinical tests due to the fact that we only need 15% to 20% of functioning liver in order to get along. In any event, it is well to try to ascertain how much the damage is before deciding to operate and what operation to do.

2. Three forms of test are available to determine the question of liver damage. First, we may obtain bile by duodenal drainage and estimate the percentage of normal of the three constituents (cholesterol, bile-pigment and bile-acids). Second, we may take a blood-specimen and estimate the serum-bilirubin. Third, we can have the patient ingest or we can give intravenously one of the tetra-halogen-phenolphthalein dyes and estimate the elimination time.

3. Remember that in a surgical patient a temporary depression of liver function may prove just as fatal as if the depression were due to permanent lesions. Seriously impaired liver functions means poor risk surgically. Gall-bladder cases except those with common-duct obstruction seldom call for haste and time spent or not spent in improving your patient's liver function will show in your mortality report.

4. "Silent Gall-stones" are misnomers. They have not been silent at all. We have merely failed to listen to them. The presence of gall-stones is always manifested by symptoms, though the symptoms may not have been severe enough to cause recognition or the symptoms may have been misinterpreted.

5. Present day statistics since typhoid fever has become so much less common, show appendicitis, typhoid fever, and pregnancy in this order as the probably chief factors in the etiology of cholecystitis and cholelithiasis. It is well to consider every appendicitis case as a future gall-bladder case and advise care as to habits and diet. This is more especially true of the suppurative case.

6. Jaundice is always a serious symptom in a gall-bladder case and immediately places the patient in the class of poor risk surgery. Considerable depression of the liver function can exist without demonstrable jaundice, but when jaundice is visible, it is *prima facie* evidence of serious interference with the liver function and is worthy of deep surgical consideration. It is not only the risk of hemorrhage and slow healing, but the jaundiced patient shows a markedly diminished vitality in other regards. They do not stand shock and are more prone to pulmonary complications, circulatory disturbances, paralytic ileus, renal failure, and all the possible complications. The indications are to relieve the jaundice if possible before operating. If this is not possible, then the indications are to shorten the coagulation time by calcium salts and build up the fluid reserve by forcing fluids and to increase resistance by transfusion if necessary. The operation should then be done under local anesthesia and the first objective of the operation should be to relieve the jaundice. It is possible by the niceties of surgical judgment to decide just which case will stand extension of the surgery beyond this objective, but judgment on this score is often faulty and mortality reports would read much better if we would take less chances on this point.

7. Poor Risk Gall-bladder Surgery.—To this group belongs especially the group of cases with jaundice, with renal involvement, and with cardiac decompensation, and those with peritonitis. The indications are for as little surgery as will restore the patient's vitality and that done under local anaesthesia. What matter if a second operation is necessary and this operation made more difficult through the presence of adhesions? It is better always to do two operations and have a live patient than one complete operation and a dead patient. At this point I cannot help but strike upon the moot question in gall-bladder surgery, namely, "to drain or to remove." From a

consideration of liver function, one fact is evident, that in the presence of jaundice, drainage either through the gall-bladder or through the stump of the cystic duct, or through an incision into the common duct is necessary. A diseased gall-bladder, like a diseased appendix, is best removed, yet we do not remove all diseased appendices. We sometimes find it wiser to drain. We have all heard at one time or another the statement made that no more shock is produced and that it is as safe to remove as it is to drain. This might be true under general anaesthesia, but it is the opinion of the writer that the surgeon who attempts gall-bladder surgery in the poor risk case under general anaesthesia is not giving his patient the best possible chance and few will maintain that cholecystectomy is as safe as cholecystostomy under local anaesthesia.

SUMMARY.

I close with a plea for very conservative surgery and that under local anaesthesia in poor risk gall-bladder cases, with later operation for complete repair of the lesion.

DISCUSSION.

Dr. James K. Avent (Grenada): In my opinion there is little we know about the liver, and also little we know about the gall-bladder. Next time you take a patient to be operated, say for gall-bladder, I want to tell you this—do not say the patient is cured when the gall-bladder has been removed. You ask the doctor—especially if the diseased gall-bladder has been around the liver for a good while—you will get chronic biliary cirrhosis, especially on the right side, and you ask the doctor to let you see the right lobe of the liver, and then ask to see the left lobe; then ask him to feel these two lobes. He will tell you that the right side is harder than the left; then he will say the right side is yellower than the left. What has happened? The gall-bladder might have drained so well that he might have questioned whether it should come out, but if he had inspected the right and left lobes of the liver he would have seen that the association with the diseased gall-bladder had caused the infection to travel up the submucous glands and given the patient chronic biliary cirrhosis. In my opinion a man should never remove a gall-bladder unless he sees this, because if the

patient is not cured it is because he has already developed chronic biliary cirrhosis in the right lobe of the liver. You do not need to do this with all your patients, but in some cases take a few flakes from the right lobe of the liver and a few flakes from the left, and study them. I saw Deaver take out flakes and send them up for frozen section examination and that report would be back before the patient was sewed up. Possibly the other lobe will be all right—have normal tissue, while one will show chronic biliary cirrhosis.

We do not know as much about surgery of the liver as we should. The fellow that tells you that he places drainage in the gall-bladder instead of removing it—I will say he does not know how to remove the gall-bladder. All these tests are not positive, but it takes them all together in order to know what you have before you. You may have normal function tests and you may have stone in the cystic duct for years and the patient is all right. These different tests are not reliable in themselves. If you do liver tests, do them all, and then after all these tests are made open up the patient and examine the two lobes of the liver and see what you have.

Dr. M. Q. Ewing (closing): I tried as far as possible to keep out of the operative field in writing the paper. It is purely a question of the function of the liver associated with a diseased gall-bladder. The doctor quoted Deaver, and everybody knows he is exceedingly radical about gall-bladder surgery and always has been. That would seem to bear out the statement that you do not have a diseased gall-bladder without a diseased liver. Why do we get the cirrhosis of the doctor speaks of? Very seldom do we operate on a gall-bladder case that has not been a gall-bladder case for a period of years. It has been there a long time and has gone on until the condition is sufficiently aggravated to provoke surgery, and then we find cirrhosis of the liver. Cirrhosis is not a contra-indication of operation; it is rather an indication, and even though late you have an opportunity to get rid of a focus of infection. It is wise always to remove the appendix with a gall-bladder that shows signs of disease, but my plea is for conservative surgery, that the poor risk be drained, and the radical operation reserved for later.

THE ANTAGONISTIC EFFECTS OF ANTIDIPHThERIC SERUM ON THE TUBERCLE BACILLUS.*

S. B. WOLFF, M. D.,
OPELOUSAS, LA.

The purpose of this paper is to record an unusual thought, a theory as it were, rather than a proven clinical fact, but since time, and added clinical material serves only to strengthen my belief in my ability to finally prove the truth of this theory, I thought that it would interest the members of this society to share with me the great possibilities which my theory offers.

About two and one-half years ago I was called to treat a white male child of this city who had had fever for three months, a temperature which would suggest to any clinician the possibilities of tuberculosis. After all possible clinical tests had been made to solve the etiology of the fever, I made a diagnosis of tuberculosis and had the child in bed, with forced diet and general hygienic measures.

Some peculiar mental reaction prompted me to make a throat culture, as the child's throat showed no gross suspicious lesions, and to my surprise a report of diphtheria was obtained. In fact, so surprising was this report, that a second culture was made which confirmed the first. Realizing that no harm could come from diphtheria antitoxin and believing that the elimination of diphtheria with antitoxin would remove this encumbrance from the vital body forces and hasten recovery, I administered ten thousand units of diphtheria antitoxin and was surprised to have this boy's fever, which had lasted three months, disappear in one week. He has had no fever or other symptoms since that time.

This unusual result gave impetus to new interest and thought along the lines of the possible relationship between diphtheria

*Read before the St. Landry Parish Medical Society, March, 1926.

and tuberculosis. I wondered just how many people running this low, irregular form of fever, with a diagnosis of possible pulmonary tuberculosis hanging over their heads, if subjected to throat cultures would react in this positive way. Thought and fancy alone could not satisfy my curiosity on this point, so I subjected ten of my patients, showing apparently normal throats, but running irregular temperatures and showing other tuberculous stigmata, to this test and found positive diphtheria cultures. I first gave them antitoxin and later toxin-antitoxin with clinical improvement in all. Further thought and study on the relationship of these diseases revealed interesting facts. I have questioned several hundred cases of proven pulmonary tuberculosis, and have yet to find one giving a history of diphtheria infection in childhood. I have also noted in my ten years of general practice in this community that diphtheria rarely affects the colored population, a people very susceptible to tuberculosis. These facts at least suggest the immunizing power of the one disease against the other. Is this one of nature's cryptic methods of preserving and prolonging the life of the human organisms against one of the most

virulent diseases? The age incidence of various diseases suggests, too, the possibility of this great natural scheme of health, and for generations tradition, and folklore have always considered the childhood diseases as necessary evils of our civilization.

With these observations before me, I injected diphtheria antitoxin into patients in advanced stages of tuberculosis. The curative effects have not been encouraging, but in a limited series of cases I have noted a constant and definite alteration in the tubercle bacillus, in that it has become beaded at the ends and at times seems to have been broken up. I claim no curative effects from diphtheria antitoxin, but my study so far has stimulated me to go further into the question of immunity, for if such a condition does exist, then with our various toxin-antitoxin mixtures which confer a definite and prolonged immunity for about six or seven years, may we not expect by working along these lines with our children to stamp out one of our great mortality producers in later life?

This is merely a preliminary report. I hope later to be able to furnish data which will either establish the fact or fallacy of my belief.

NEW ORLEANS

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HYPOTENSION.

It always affords one a certain amount of pleasure to read the name of a friend or an associate signaled out for special mention in conjunction with some noteworthy bit of writing or some peculiarly keen scientific work. It was most gratifying to open the June nineteenth number of the London *Lancet* and to find that the leading editorial dealt with a paper written by Dr. A. E. Fossier* on the subject of "Essential Hypotension." The editorial briefly called attention to the increasing interest in this subject which is being aroused in the United States by clinicians and then proceeded to quote verbatim the very vivid and lucid word-picture drawn by Fossier to describe the subjective sensations of the

(*Am. Jour. Med. Sci., 1926, 171, 496.)

poor unfortunate victim of inheritance of a faulty bodily structure. The next paragraph then discussed the thesis advanced by Fossier to explain the genesis of hypotension. At the end of this paragraph the editorial writer wrote that the most important fact that can be drawn from this work is that no one single organ can be implicated as the cause of low pressure within the vascular tree.

In order to comprehend more fully the gist of this editorial it might be well to pass in review rapidly the theory advanced by Fossier to explain the very important symptom-complex associated with hypotension. It is his contention that the primary basic fault lies in the habitus of the patients. They conform to a certain physical type which is characterized by elongated chests, exaggeratedly slanting ribs, narrow costal angles, low diaphragms, and protruding lower abdomen. This type of individual is well known, and needs no further general description but the effect of this bodily confirmation on the heart and great blood vessels has not been previously stressed. The arch of the aorta is pulled down, its hemicircle is small; the ascending aorta is elongated; the heart is vertical and of small transverse diameter, and most important, it is poorly supported by the diaphragm. Transposing to the splanchnoptotics the general principles of hydraulics that "the larger the pipe and the smaller the radius of the bend, the smaller will be the final velocity energy," an explanation is offered for their low systolic pressure, for the longer the aorta and the narrower the diameter of the arch the lower will be the systolic pressure. Alleviation of this disturbing symptom may be secured by treatment directed to the relief of the splanchnoptosis: artificial support, exercises to strengthen the abdominal musculature and forced feeding to increase the intra-abdominal tension.

With the main contentions of Fossier we are in complete accord but we do not see how hypotension, which is not a distinct

nosologic entity either from a clinical or an anatomical standpoint but is merely the result of splanchnoptosis, as the author himself says, can be correctly labeled "essential," meaning all important. The splanchnoptosis may be essential but not the secondary low blood pressure.

AN UNUSUAL OPPORTUNITY.

The forthcoming visit to and tour of our state by Dr. Morris Fishbein is, indeed, an event to which we should give more than passing mention. Anyone who has noted the high-class editorials in our Journal of the American Medical Association, as well as those initialed "M. F." in *Hygeia*, is justified in congratulating himself on the fact that the author is making a special trip to our state to deliver first-hand messages to us, our confreres and our friends among the laity.

Last month, we detailed the subjects on which he prefers to talk; suffice it to say, that, coming from an authoritative source, as they do, these addresses will prove to be an education in themselves.

The Journal hopes that the local committees and the various societies of the communities in which Dr. Fishbein will deliver addresses will leave no stones unturned to advertise thoroughly the events, so that, not only the people of the immediate cities and towns, but, also, those of surrounding territory, will be fully posted as to the time, place and subject. We suggest that the Councilors get busy and circularize their respective districts.

It is an unusual opportunity, doctors, so let's all put our shoulders to the wheel and give Dr. Fishbein a rousing welcome and crowded houses.

LEGAL RESTRICTIONS.

There is a certain amount of unrest and discontent among doctors, regarding the various laws, restricting the practice of medicine. Records and reporting take up much of the time of the conscientious man;

the non-conscientious does not worry about them. Drugs, non-narcotic in effect, come within the scope of the narcotic laws; valuable drugs are outlawed on the waves of hysteria.

Thomas Jefferson said that "The least governed people are the best governed"; congresses, legislatures and other law-making bodies should feel that, although they, with the executive department, are invested with the *Power* to make laws, they are not *obliged* to enact new laws and laws and complicated laws. To paraphrase: 'Better to simplify the laws we have than to try others, the workings of which we know not of.'

FOR FATHERS ONLY.

"In the average American home, the father contributes too little to the family life and the mother too much." These are the words of a father as published in a new magazine called *Children, the Magazine for Parents*. A professor of sociology in Boston University and author of "Wholesome Childhood," Dr. Ernest R. Groves continues his advice to fathers by deploring what he terms "a mother fixation on the part of children." To combat this, he suggests ways in which father may manage to see his children at times without the presence of mother.

Explaining his position, Professor Groves writes:

"It may be natural and good for young children to be more with their mothers than their fathers, but it certainly is not wholesome for these children to be brought up almost exclusively in the fellowship of their mothers. Fathers have something also to give the growing child, something that mothers cannot ordinarily give so well.

"You and I cannot be good fathers unless we face this fact squarely and make it the cornerstone of our family program. Unless we deliberately arrange to provide for fellowship with our children, we are

apt not only to deny them the greatest gift in our power, but also to be forced gradually to assume a role which makes impossible any sympathetic understanding between our children and ourselves.

"Do you not know fathers who have been made family bankers and policemen? It has become their primary business to draw checks and punish the children. When they come home at night they listen to tales of disobedience and portion our measured punishment; when they hurry away in the morning they leave a freshly written check on the breakfast table. None of us can be of any real value to our children if from early years they have been accustomed to think of us as the ones who bring home bundles, draw forth money from our pocket-books, and inflict punishment; yet unless we contribute something in the forms of fellowship we become of necessity associated in the mind of the child with family finances and punishments.

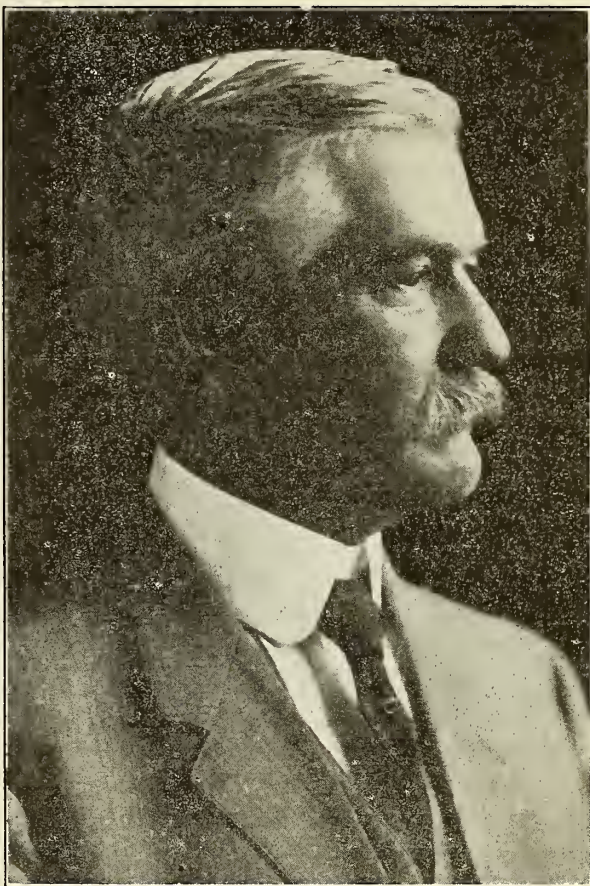
"There are fathers who believe that their sons need comradeship, but that their daughters can safely be left entirely to their mothers. No graver mistake could be made than to discriminate between sons and daughters in the giving of comradeship. Daughters particularly need their fathers if they are to have normal attitudes toward men."

CORRESPONDENCE.

New Orleans, Oct. 19, 1926.

To the Editor:

Upon advice from physicians in New Orleans, Baltimore and New York that freedom from physical and mental strain was the best remedy for the affection of the muscles of my eyes, I recalled what my good friend, General Gorgas, had often said of the restfulness of the Canal Zone. I was reminded of this also by Dr. W. E. Deeks of New York, who had spent many years in Panama, and while it seemed far from home, doctors and others friends said to get entirely away from executive worries and cares was exactly the thing to do.



Major-General William Gorgas.

I had been to Panama, which to most of us means Canal Zone, in 1913 and subsequently, but I had no idea that conditions could be so delightful. The climate was a surprise as my recollections included experiences of warm days, but during my stay this summer the temperature ranged between 70° and 86°—never over 86—and the nights were pleasantly cool. The climate is seemingly a tonic and is especially curative for those afflicted with high blood pressure, heart or kidney diseases.

Hospital and medical service in Panama is worthy of note, as, exclusive of the Zone, there is one hospital bed for every 474 people; if the hospitals of the Zone are included there is a bed for every 162 inhabitants. Dr. L. C. Prieto, a Tulane graduate, is in charge of the obstetrical section of Santo Tomas Hospital, where there is an average in excess of 100 births per month.

There are two modern public laboratories besides several private ones; the Heric Clinic operates the Panama Hospital. The physicians are well qualified and one hundred and seventeen of the one hundred and twenty-seven physicians belong to the Medical Association of the Isthmian Canal Zone, which is allied with our American Medical Association.

The death rate of Colon for 1925 was only 12.82, with about ten negroes to every white person—Panama a little higher—while the rate of the Canal Zone (8.00) is said to be lower than that of any state in the Registration Area, a record conclusive as to the excellence of the sanitary condition and proof of what can be done to lower the number of deaths in even a tropical country. These low rates are to the credit of Colonel Chamberlain, Dr. D. P. Curry, acting chief health officer of the Canal Zone, including Panama and Colon, Dr. Jesse L. Byrd, health officer of Colon and Dr. Goldwaithe of Panama.

The markets and dairies are so well planned and kept, also the stores, that they are models in both construction and cleanliness. Dr. Henry Goldwaithe's excellent method of garbage disposal has attracted attention in many countries. I was particularly impressed with the way milk is handled and the expense attached. A glass of fermillac (buttermilk) sells for twenty-five cents and persons who buy pasteurized milk on the Zone must have a permit, just as we have in the States in order to buy a bottle of something not so good for health. All sections require that milk shall be pasteurized. Colonel Chamberlain speaks with gratification of the homes, 88% of them being sanitized.

While living is not cheap some things are fairly so. I had two suits made of flour sacks which were inexpensive and entirely satisfactory; they look nice, too.

I was greatly impressed with the desirability and the practicability of the situation as a place for the Gorgas Memorial. Few persons will ever realize the vast influence of the work of General Gorgas upon the

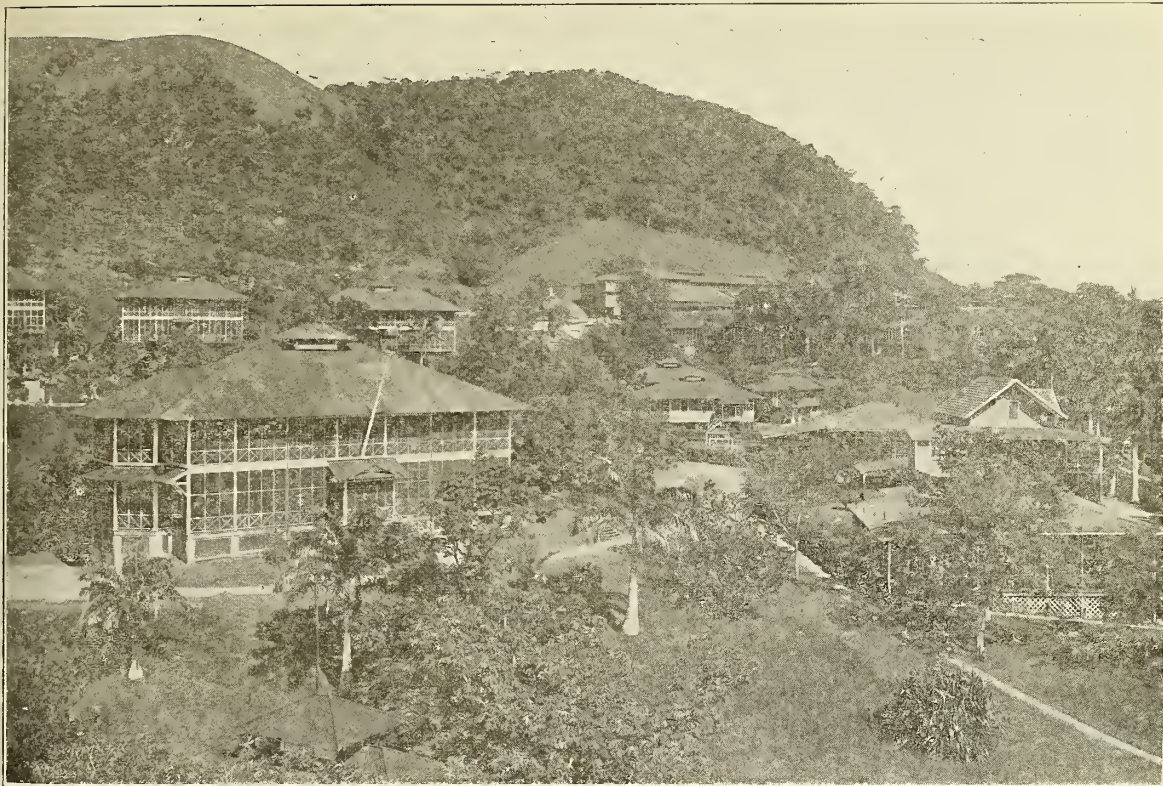
progressive civilization of the world. The jungle wilderness, the disease pest hole of the Western Continent, was made habitable, healthful—a garden spot where it is a joy to live. It was the vision, the faith, the industry, the almost sublime patience of General Gorgas which accomplished this; a fit memorial is due him.

But aside from the almost ideal conditions, the situation offers the greatest potentialities for effective service in the welfare of two countries by an institution planned and built to meet the demands of preventive medicine and the public health needs of the people. The possibilities are illimitable; they can be made real only by the establishment of an institution, the greatest of its kind—greater in scope and service than any the world has ever known.

I started on the cruise home from Cristobal, just thirteen years from the day of my return on my first trip. I came on the S. S. Turrialba, one of the finest boats of the United Fruit Company. Due to the generous kindness of E. F. Beyers, master of the ship, I was removed the first afternoon to the bridal suite—so you know I had beautiful surroundings as well as comfort. At day break Monday morning shortly before the loading of the boat, I walked twice around the deck in my bare feet and found the floors so clean it was not necessary to wash the bottom of my feet, except as a sanitary precaution. I told Dr. W. W. Calhoun, the doctor of the Turrialba, that his ship is a S. S. spick, span, spotless and sanitary.

I was impressed also with the way the wharf was kept clean. Men worked right behind those who were loading picking up bananas or waste that might fall on the platform and when they had completed their work the dock was as orderly as in the beginning.

The possibilities in the development of our commerce with Panama, Central and South American countries, came to me many times and never more so than the day of leaving; 48,000 bunches of bananas, 28,000 cocoanuts and 20,000 crates of



GENERAL GORGAS' HOME.

avocadas, were a part of the cargo; 316 men did the work between five a. m. and three p. m., and it was interesting to learn that Mr. Jesse Baker from Myrtle Grove, Louisiana, was in charge of the work with Mr. Dick Moore as assistant.

Anyone from this country traveling in the tropics, and especially in South and Central American countries, senses a certain disharmony in the relations of the people of the south and the north. Doubtless the motives underlying this misunderstanding are quite complex; the difference in language is a barrier to interchange of ideas and therefore to mutual appreciation and the inevitable differences in customs and modes of thought are racial, I am sorry to say that there seems an element of distrust of our methods and intentions and no doubt history has furnished for this an adequate background.

The policy of "peaceful penetration" is not new and is known to the small countries south of us. To my mind success in this depends now and will depend in future

on the confidence that we can inspire largely by the equity of business transactions. I am confident that the business people of the United States have reached the same conclusion.

An interchange of products is informational and an interchange of visits, if we might put it that way, is educational, and we of the States, and particularly of the southern states, should have in mind the desirability of cordial relations with our southern neighbors.

OSCAR DOWLING.

Editor's Note: The letter below written by Congressman Dr. Ladislav Lazaro, of the Seventh District of Louisiana, to the publishers of "The Essential Facts of American History," is self-explanatory.

Opelcusas, La., September 27, 1926.
Messrs. B. H. Sanborn & Company,
Chicago, Illinois.
Gentlemen:

I have read your book "The Essential Facts of American History" which is taught

in our public schools, and find it very interesting. But it seems to me that your chapter on the Panama Canal could be improved, and I am writing to make a suggestion.

Of course, we all know that General Goethal built the Panama Canal and is entitled to all the credit you can possibly give him, but it seems to me that Doctor Gorgas is entitled to some credit and that the children ought to understand the whole history of it.

We know that the French government failed to build the Panama Canal under De Lesseps because of a high death rate from yellow fever and malaria; that later, about the time of the close of the Spanish-American War, the United States government appointed Major Walter Reed of the United States Marine Hospital and Public Health Service to conduct an investigation into the origin of the fever which for centuries had been the bane of the tropics. His assistants in this important investigation were Lieutenant James Carroll, also of the Marine Hospital Service, Assistant Acting Surgeon Lazear, and Dr. Aristides Agramonte.

These heroic men undertook the work in the spirit of service to humanity and to advance the torch of scientific truth further into the surrounding gloom of ignorance and preconceived prejudice. Dr. Lazear sacrificed his life in carrying on the necessary experiments, but in the end what is popularly known as "the mosquito theory" of yellow fever transmission was established.

It was in New Orleans, however, in 1905, that the new theory, which was so slow in finding its way into public recognition, and even among members of the medical profession, was first put to a conclusive practical test.

Yellow fever made its appearance in that city in August, 1905. During this epidemic the people of New Orleans asked the Fed-

eral Government for assistance in stamping out the epidemic. Dr. J. H. White of the United States Marine Hospital and Public Health Service took charge of the work. With the co-operation of Dr. Kohnke, City Health Officer, and other medical men of New Orleans and Louisiana, the fever was stamped out completely and the city was declared free from infection long before the first frost. The pluck and brain and money of New Orleans and of the State of Louisiana, marshalled under the leadership of science, interpreted by that trained and tireless fighter of epidemics, Dr. J. H. White, had won the most brilliant triumph the world had ever witnessed in the realm of medical science. So, in the victory that New Orleans won in 1905 the problem of successful digging of the Panama Canal was solved. It was the result of this splendid achievement that enabled Dr. Gorgas to convert the Panama Canal Zone into a healthful place, and it was after this was done that General Goethal proceeded with the work of building the Canal which finally united the two great oceans.

I hope you will give this matter due and careful consideration when your book will be revised and printed again.

Yours respectfully,

LADISLAV LAZARO.

CORRECTION.

Through error on the part of our printer an important footnote failed to appear under the paper by Drs. R. H. Turner and P. H. Jones, entitled "Yatren 105 in the treatment of amebic dysentery" which appeared in our October issue. The footnote in question being: "Aided by grant from the Schwartz Research Fund." As the authors state that this valuable study on Yatren was only made possible by the grant from this Fund, the omission is all the more to be regretted. We sincerely deplore the oversight.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of October the Board of Directors held one meeting. There has been one Scientific Meeting and one combined Scientific and Third Quarterly Executive Meeting of the Society.

Drs. C. T. Williams, J. O. Lisenby and A. McK. Powe have been elected to Active Membership in this Society. Drs. Suzanne Schaefer, G. C. Culley, Herbert L. Weinberger and Robert M. Willoughby were elected to Interne Membership. Drs. F. C. Hava and Harry Heiman were reinstated to Active Membership.

The Society has approved of a change of investment of the \$30,000.00 Fund known as the Domicile Fund from the present 4¼ % Liberty Bond holdings to bonds paying around 6% interest which bonds shall be selected from the list of investments which the State of Louisiana legally authorizes as investments for trust funds of minors. Before the Fund can be transferred a majority of the Membership must approve this resolution and we are asking that everyone return to us at once the postal card which has been sent them.

The Stanford E. Chaille Oration will be held Monday, November 8th, the Orator being Dr. Allan O. Whipple, of New York, and his subject will be "The Spleen and Its Relation to Blood Dyscrasias."

At the Scientific Meetings the following papers were read and discussed:

OCTOBER 11TH

"Sarcoma following Fracture, or Fracture following Sarcoma".....By Dr. Hermann B. Gessner
Discussed by Dr. Amedee Granger

"The Toxemia of Scarlet Fever with reference to the Experimentally Induced Nephritis."
Lantern slides.....By Dr. Charles W. Duval
Discussed by Drs. L. R. DeBuys and Edmond Moss

"The Conservative Treatment of Eclampsia"
.....By Dr. E. L. King
Discussed by Dr. Walter E. Levy

OCTOBER 25TH

"The Audiometer in Hearing Tests".....
.....By Dr. Arthur I. Weil
Discussed by Dr. H. L. Kearney

"Swimming Tank Conjunctivitis".....
.....By Dr. Chas. A. Bahn
Discussed by Dr. Victor C. Smith

"The Clinical Value of Ehrlich's Aldehyde Reaction in the Diagnosis of Deranged Liver Function: Results in Fifteen Thousand Urine Examinations".....
.....Dr. Allan Eustis

Discussed by Drs. U. W. Giles and
Walter E. Levy

"Notes on the Use of Lipiodol in the Bronchi"

.....By Dr. P. H. Jones

Discussed by Dr. Chaille Jamison

The membership of the Society is now 485 of whom 443 are Active Members.

REPORT OF TREASURER.

SEPTEMBER.

Actual Book Balance 8/31/26	\$2,402.87
Receipts during September	\$ 243.16

Total receipts	\$2,646.03
Expenditures	\$ 289.64

	\$2,356.39
Outstanding checks	\$ 102.17

Bank balance: 9/30/26	\$2,458.56
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REPORT OF LIBRARIAN.

JULY-SEPTEMBER

The work of the Library from July-September has been quite heavy in spite of the intense heat. Five bibliographies have been prepared on subjects as follows:

Syphilis of the Stomach (1922-26)
Stovarsol (1922-26)
Leontiasis
Pellagra (1922-date)
Cirrhosis of the Liver in Children

These lists have been placed on file for the use of the membership.

One hundred and seventy-four volumes have been added to the Library during the quarter. Of these 43 were received by gift, 101 by binding, 13 by subscription and 17 from the New Orleans Medical and Surgical Journal.

A meeting of the Library Committee was held July 21st at which Library plans were discussed. Four members were present and much interest was shown in the problems presented.

We wish to acknowledge with thanks gifts of books and Journals from Dr. C. J. Miller, Mrs. M. H. McGuire, Dr. Allan Eustis, Dr. Walter E. Levy, Dr. H. Dickson Bruns, Dr. F. Chalaron, Dr. W. A. Love. We feel that this increased number of donors is a very promising sign. It shows a healthy co-operative spirit on the part of the membership toward the Library. We are always glad to receive these donations and by the resultant pooling of medical reading matter, the greatest good can come to the greatest number.

H. THEODORE SIMON, M. D.,
Secretary.

TRANSACTIONS OF THE JOINT CLINICAL MEETING OF THE ORLEANS PARISH MEDICAL SOCIETY WITH THE CHARITY HOSPITAL STAFF IN THE MILES AMPHITHEATRE, CHARITY HOSPITAL, HELD JUNE 14th, 1926.

CASE NO. 1.

Presented by Dr. R. H. Turner.

Mr. D., age 43 years, lieutenant in the Fire Department. This patient is being presented because this seems to be a classical case of sprue that has responded to therapy which has certain new features. For two years this man has been sick. His illness began suddenly with diarrhoea, frothy movements, followed by loss of 20 lbs. weight and strength; the condition was preceded by sore mouth. These symptoms persisted for over a matter of months with conditions taking a downward course. Was admitted to the Hospital January 1st, 1925, about 18 months ago and was in the hospital for 5 weeks. During that time he showed considerable improvement. Instead of ten to fifteen movements a day, when he left the hospital he was only having two or three. He was put on a diet of acidophilous milk with later addition of various fruits, and upon leaving the hospital stayed on that diet fairly well. After two months he began a downward course. The second time he came in he was having as high as thirty movements daily, had become extremely weak and his weight, which was usually 200 lbs., was 139 lbs. He had become very restless, slept very little, had sore mouth—almost any food causing pain to the mouth; he was so weak he could hardly walk. At first admission he had a blood picture similar to that of pernicious anemia; with improvement it changed to a mild secondary anemia. Second admission December 1st, 1925, when blood picture was again that of pernicious anaemia. He was placed at first on a diet of whole milk and raw pancreas; diarrhoea dropped from twenty-five to thirty movements to ten a day but continued to be pure froth. After this treatment for about two weeks, he was given crystal violet, a dosage of 50 mg. six times a day for three days. The total daily dose was 250 mg., given in gelatin capsules of alcoholic solution for three days. At the end of that time he was having two movements a day. Within two or three days, and since then, he has been having formed movements. Two other courses of crystal violet were given a similar nature. In the third course, instead of giving in alcoholic solution, the powder mixed with dextrin in gelatin capsules was given. After this he was placed upon a diet of protein milk, gelatin, one steak a day, one portion of oatmeal, two baked plantains, and two raw over ripe bananas. That diet has been continued up

to the present time, gradually omitting the protein milk and increasing bananas to twelve or fourteen a day; he still takes steak, oatmeal and two portions of gelatin a day. He uses no sugar, using saccharine in tea and coffee. All food is as free of fat as possible. He continues to take pancreas. His blood has gone from 1,800,000 to over 5,000,000; hemoglobin 90, weight from 139 to 206 lbs.; strength from barely being able to walk to his now present ability of being able to go up training tower without dyspnea, and he considers himself a well man. In February he had a slight diarrhoea for one day but with the exception of that once, he has none.

The use of crystal violet in this case is based upon the work of Boggs and Fried* who wrought a spectacular cure of a case of intestinal sporotrichosis by its use. At the time of this patient's first admission many monilia were found in the stool. Since crystal violet (gentian violet) inhibits the growth of the monilia as it does the sporothrix it occurred to us that the use of crystal violet might indicate whether the monilia played any important part in the production of symptoms. However, on repeated careful culture during the second admission, no monilia were found. The flora of his stools showed a great preponderance of gram positive organisms. Since gentian violet in solutions of one to one hundred thousand or stronger inhibits practically all Gram positive organisms, it was believed that the use of gentian violet might change the intestinal flora. This it seemed to do. As to the exact part played by the crystal violet or by the diet used, it is impossible to say. But since the result has been so spectacular, Dr. Musser, whose patient he is, wished it reported.

DISCUSSION.

Dr. Chaille Jamison: That case was admitted the first time to Ward 14 when I was in charge of the service. We promptly made a diagnosis of pernicious anemia. He had the blood picture, was not emaciated, having a certain amount of diarrhoea; had no hydrochloric acid in the stomach content. He had, so far as we could determine, no degenerative lesion of the cord. All of this seemed to fit well with pernicious anemia; he was not emaciated but had lost much weight. We put him on acidophilous milk and he promptly made a satisfactory recovery. He then returned in an apparently worse condition and diagnosis of sprue was made. Whether sprue and pernicious anemia is different, is open to question. With reference to the use of the pancreas: when Dr. Herrmann's younger brother was here he told me in pernicious anemia they were using liver and liver soup. Since

*Boggs and Fried—Sporothrix infection of large intestine and finger nails. Bull. Johns Hopkins Hospital, 37:164. 1925.

we have heard Minot's paper, I have recently seen two cases of sprue; both have been more advanced than this case; both have shown blood pictures of pernicious anemia and absence of hydrochloric acid, have been emaciated, and had white, frothy stools. One of these cases was sent back to Alexandria and showed markedly good results; a bad prognosis had been given. We had her on liver and pancreas and gentian violet and she made a surprising recovery; she has regained perfect health and she had been in a terrible condition. I have another case now in Hotel Dieu who has some other condition besides. Her blood picture showed a red count of one million, today her blood picture shows three million red cells. She is not well but her condition has certainly cleared up. About this case at Hotel Dieu: apparently, we could find no monilia in stools; they were never found at Mercy; two or three months later, after use of gentian violet, they were found in the stools. There is no question in my mind that we have been seeing sprue around this hospital for a good many years, but we have made the diagnosis of pernicious anemia on the blood picture and achlorhydria alone and we have not taken into consideration that emaciation and diarrhoea were constant in sprue. I am not prepared to say that the two diseases are not the same thing. Where a diagnosis of sprue can be made with reasonable certainty, the treatment as outlined is apparently specific.

Dr. J. Birney Guthrie: I should like to know about the method of feeding the pancreas, keeping it, how taken, and some little idea as to the source of supply. We want fresh pancreas and want to know where to put our hands on fresh pancreas. With reference to gentian violet, did I understand it had been found best in solution or capsule.

Dr. Turner (closing): As to the matter of how best to eat raw pancreas: This patient obtains the raw pancreas from the slaughter house, he cuts it up into small pieces, puts a little salt and lemon on it, and eats it in that way. As to giving gentian violet, it is somewhat of a gastric irritant. Boggs and Fried gave salol coated capsules of the powder. Owing to the fact that we wanted it to act as high in the intestines as possible we tried first alcoholic solution in gelatin capsules; the capsules soon go bad. Mr. D. took it either way. Other patients have vomited. The best way is to mix dextrine with crystal violet in a proportion of 2 to 1. When this is thrown into water the powder disseminates and goes into solution instantly; without the dextrin it forms a sticky mass that goes into solution poorly. Salol coated capsules are all right. The difficulty is if you use too much salol it will go through without being dissolved.

CASE NO. 2.

Dr. L. L. Cazenavette.

The history of this case was read by Dr. Garnier. The family and early personal history irrelevant.

The subject, R. J., col. male, laborer, 25 years of age, was admitted to the neurological service on May 23rd, 1926. His complaints consisted of inability to use the left arm and left leg, and of some stiffness in the neck. He dated his troubles to a fall from a cart three weeks before admission. Dazed for an instant only he soon recovered full consciousness. He then noticed his helplessness on the left side and difficulty in turning the head. There was severe pain in the neck. He remained in bed at his home in Addis, La., for some time. There being little improvement he sought admission here.

The neurological examination made at the time of his admission revealed a complete paralysis of the *left* upper extremity of the flaccid type with loss of reflexes, and a paralysis of the *left* lower extremity with some rigidity and increased reflexes. There were present increased knee jerk, Babinski and ankle clonus on the left. The cremasteric reflex was present on left and absent on right. The abdominal reflexes were present on left absent on right. Voluntary movements of right side of body and limbs unimpaired. Subjectively he complained of a loss of "feeling" on the *right* side of body including arm and leg. Objectively there were found complete loss of sensation to touch and pain on the right side of body including extremities with preservation of these on the paralyzed or left side. There was a transverse zone of hyperaesthesia in the lower portion of the neck about the sixth cervical segment. The anaesthesia on the right side extended upward to about the sixth cervical segment. No disturbance in temperature sense or deep sensation could be definitely determined. There was at all time control of bladder and rectum. The head and face showed no disturbance. The pupils were irregular in size, the right was a little larger than the left, and the palpebral fissure was also observed smaller on left. There was noticed a deformity and limitation of movement about the cervical vertebrae. The skiagraphs of the cervical region as reported by the radiologist reveal "a fracture of the spinous process of the fourth cervical vertebra with displacement of fragment downward and anteriorly. There is evidence involving the body of the fifth vertebra and to a lesser extent the sixth vertebra, which, when taken with the history, is probably due to a partial compressed fracture with some backward displacement of the body of the fifth cervical vertebra." Other laboratory tests of blood, etc., were negative.

The above history and neurological findings make certain the diagnosis of traumatic Brown-Sequard paralysis with upper level of lesion about the sixth cervical segment. It is now six weeks since the accident and the patient presents marked improvement. He now has some voluntary movement in the left hand and arm, both in flexion and extension. He is able to walk, with a drag and spasticity of left foot. He has a hemiplegic gait. He still has ankle clonus and positive Babinski on the left. The anaesthesia still covers the right side of body and limbs to about the sixth cervical segment. Motion and sensation in head and face are not affected. An interesting point concerning the distribution of the anaesthesia in this case is that the line of demarcation does not take place directly at the midline of the body anteriorly but extends about three quarters of an inch from the midline. This point is of diagnostic value when we consider the possibility of hysterical hemianaesthesias which are invariably of midline distribution. Another point of interest shown by study of this case is the location of the lesion. We see it affecting here the left half of the cord in the cervical region. The majority of cases presenting this most interesting classical syndrome result from trauma of the dorsal region of the cord. In this case as in most such cases of traumatic origin we do not find all the symptoms we would expect in a complete section or destruction of a lateral half of the cord at a given point. There are always some fibres or pathways in the affected areas that escape destruction. Hence the modification of symptoms in each individual case, and the presence of a partial Brown-Sequard syndrome. The prognosis as to complete recovery is not encouraging. The pathological reflexes show positive involvement of pyramidal tracts. However, the patient has shown so much improvement in a comparative short time the more improvement should be expected. As suggested by Dr. Emmett Irwin an immobilizing brace would be preferable to operative procedure. He will be referred to the orthopedic service.

CASE NO. 5.

Dr. J. H. Musser

I could not bring any patient from Ward 48 so will present a chart inscribed on the other side of the blackboard. In the past six months in Ward 48 we have had the opportunity of seeing a number of cases of scarlet fever, 23 in all. We have treated them with Dochez's anti-scarlet fever serum. The twenty-three cases have shown uniformly good results. In a few early cases the skin blanching reaction was positive but lately we have not felt the need of this test. We give 10 cc. of serum at a dose. We found if the antitoxin is given early there is a complete disappearance of rash within 24 hours. In 9 cases the rash

was gone in 24 hours. The disappearance of the fever was not quite so prompt. The fever fell to normal in practically every case immediately following injection of serum, irrespective of the length of time the patient had the specific disease. If the patient had had the disease longer than two days there was a tendency of the fever to return. For example, in the first case, antitoxin was not given until 5 days after the appearance of the rash. The rash was gone in 24 hours. The temperature hovered around 100° for the next two or three days before dropping to normal. The typical fever curve we get is something like this. The temperature is 102° before serum, falling promptly to normal with disappearance of symptoms. Some of the cases have fallen by rapid lysis. In none of the cases seen has there been any untoward reaction or complication. In none of the cases leaving here could we find otitis nor any kidney trouble. The only reaction we got was that in a patient 22 years of age who had a severe urticaria; the temperature went up about 48 hours after disappearance of the specific rash, and three days later the wheals made their appearance. The majority of these cases do not go through a typical stage of peeling; the majority of them peel slightly, around the finger nails, tips of the fingers and toes. One very interesting feature is the fact that we have been able to discharge these cases much earlier than is usually done. Some were discharged in two weeks after the appearance of the rash or from 10 to 13 days after admission to the hospital. The results indeed have been excellent throughout. In only one case have we repeated the dose. In that individual the temperature came down by crisis and disappeared for a period of about 12 hours. The patient had a second rise to 103° and persisted there for 24 hours. I suggested the next day to repeat the serum and the temperature came down and remained down. It may be said that scarlet fever, like all infectious diseases, varies in severity and maybe the cases here in New Orleans have not been particularly severe. However, several cases came in with $104\frac{3}{5}^{\circ}$. The mildness of the attack we believe can be explained by the fact that there were no complications and the serum acted promptly, in spite of the fact that in one case it was given five days after the rash appeared. The procedure is a real advance in special therapy and the results were very beautiful indeed.

DISCUSSION.

Dr. Jamison: I should like to ask if any of the cases have been followed long enough to make sure there are no kidney complications?

Dr. Musser (closing): We did not see any kidney complication in the wards; there was none within 14 days after the serum, but we have not

followed up the cases to know if this sequel developed later.

CASE NO. 6.

Dr. H. Theodore Simon.

I present these two cases of spastic paralysis of the lower extremities on which we have done the Stoffel operation because prior to this operation this type of patient was given up as a hopeless invalid. Adolph Stoffel, in 1913, first described this operation for spastic paralysis. Bruce Gill reported 32 cases in 1920, and after Gill's paper this operation for spastic paralysis has been done frequently. As we all know, spastic paralysis is not a true paralysis—it is merely an inhibition of central control, allowing a stronger group of muscles to overcome a weaker group; in the lower extremities the adductor muscles press the thighs together, the hamstrings flex the knees and the gastrocnemius and posterior tibials hold the foot in an equino-varus position. The technic of the Stoffel operation is to dissect out the nerve supply of the strong group of muscles, and cut away part or all of this supply so that the weaker groups can more freely function. The first case presented is one of monoplegia, the patient formerly walking on the toes. I dissected out the internal popliteal nerve and from it separated and cut away the nerve supply to the gastrocnemius muscle group. The case still presents a valgus deformity but walks flat on his foot—this valgus is due to the post-tibial muscle which still functions. This operation was done only four weeks ago; the weaker groups have not had chance of recovering co-ordination. After the muscle is cut, massage, physio-therapy, etc., is instituted. We are going to try elevation of the outer sole of the shoe and elastic strap pull and if we cannot get this patient to walk without the valgus we will have to dissect the nerve supply of the posterior tibial muscle and cut it.

CASE No. 7.

This child was seen first about two years ago, a case of marked spastic paralysis of both lower extremities, bed ridden with marked flexion and adduction deformities. We put this child in casts, straightened the deformities and then put on braces, but did not succeed in maintaining correction. When he came back to us he was walking on his toes, his knees were pressed closely together and his gait was bad. We did a Stoffel operation on both obturators and both internal popliteal nerves. He is now getting around without braces, walking flat footed and as he grows older he will develop a better gait. We have used this operation also for the upper extremities, dissecting the median nerve, testing the flexor and pronator nerve supplies and cutting these, thereby

relieving the typical wrist flexion forearm pronation deformities.

The results in these cases are not as striking or satisfactory as in the lower limbs owing to the numerous intrinsic muscle movements of the hand and fingers. In case of contraction of the knees due to hamstring spasticity we have dissected the sciatic nerve and have cut away the hamstring nerve control from this nerve. This quite readily allows the weak quadriceps extensor to function better and thereby relieves the bend at the knees.

CASE NO. 8.

Dr. J. A. Danna.

I am going to show the fifth case of empyema treated by aspiration and replacing of aspirated fluid by air. There are two ideas that I would like to have you take home with you in discussing this work: Firstly, the replacing of fluid with air and complete removal of all fluid at one sitting. Those of you who have had any experience in tapping the chest know you cannot entirely empty the chest with the usual method. If you do get all the fluid possible out (even in cardiac cases the lung is edematous and unyielding) you cannot empty the chest entirely, and if you do nearly empty the chest your needle impinges on the lung wall and the patient begins to cough and you have to stop. The contrast of the present method with the pain and discomfort that the patient experiences in the use of the early method of trying to empty into the chest, is quite marked. The second point I want to stress is that we can, by this method, cure empyema. As to whether we can cure all cases of empyema, we do not know; time will tell. This is the fifth case which we have on record. Cases have ranged from acute cases of a few days' duration to two or three months before first being treated. This man had an attack of influenza four months ago. He was aspirated by Dr. Daniel Murphy on the 14th of February; had his second aspiration about a week or ten days later; had a third aspiration. He came into the hospital about the 20th of last month. Had an aspiration on the 23rd of May and got 450 cc. of pus; injected 450 cc. of air and six days later we did a second tapping and were only able to get 20 cc. of fluid. (Picture.) This shows the picture when he first came in; this is the picture after the first tapping; this is another picture after an additional accumulation; this shows the final picture immediately after the second tapping of 20 cc. The last aspiration took place the 29th of last month. This is the picture taken this morning, showing chest clear of fluid; the chest is empty. I believe this man is cured. Most of the time he has been here he has been walking around; he has been comfortable all the way through. None of the operations have

been very disagreeable. I would like to have a little more experience along these lines so if any of you will help me by seeing that I get in contact with the patient or trying the method yourselves, I will appreciate it very much.

DISCUSSION.

Dr. J. Birney Guthrie: I have had rather extensive experience in removing of fluid from chest and replacing with air. The method is a valuable one, and worth while in every way. I see the case from the medical standpoint. Especially am I interested in effusion where the heart is interfered with. Origin of the fluid we will not go into. We see contraction of the heart due to increased pressure and advisability of removing the fluid. The question of removing the fluid is an interesting one. Occurrence of cough and other signs we have all been concerned with. About 300 or 400 cc. is all we dare to take out of the chest. With this method it is apparently easy to remove a large amount of fluid accumulation; it is easy and is done by aspirating. It is desirable to expand the lung where collapsed. X-Ray shows mediastinum pushed to the other side. The degree of dyspnea is considerable and the patient is depressed by the presence of the fluid. This constitutes indication for relief. It is not wise to take out 400 cc. of fluid and replace no air. Replacing a syringe full of fluid with a syringe full of air, we produce a condition of pneumo—instead of hydrothorax. Lateral pressure upon the auricles is considerably less from air than from fluid. A chest full of air is better than a pleural cavity full of fluid. We have had no catastrophes—nothing but gratifying results. In conditions of tuberculosis of the lung and pleural involvement there is danger of injuring the lung if we took out too much fluid. The replacement of air lessens the danger of taking out too much fluid. Today we can take out 400 cc. and it is perfectly safe. My opinion is based on experience of about two years. It is possible to empty the chest completely, as can be demonstrated by radiograms.

Dr. A. Henriques: Should like to ask if doctor has had any experience in multilocular empyema?

Dr. Danna (closing): One case I presented, showed three separate fluid levels. In these cardiac cases, especially, and malignancy cases where you get considerable compression and displacement of heart and lungs your patient's dyspnea is due not wholly to compression but to the actual weight of the fluid. Have removed four or five pints of fluid or even more from one side of chest. There is much weight on the diaphragm and that must weigh down the patient who already has a bad heart. Take that patient and remove 4 or 5 pints of fluid and replace fluid with air and the patient feels greatly relieved and better. Another point

that we want to remember is this: One reason why water feels much less comfortable in the chest than air is that water is not elastic. You can take a hypodermic syringe and fill it with water and you cannot pull the piston $\frac{1}{4}$ of an inch. But you can pull it all the way if you let in a little air. The air you replace the fluid with is elastic; it is like having an elastic air bag in the chest instead of a rock.

CASE No. 9

Dr. A. Mattes.

The first case is interesting as far as the etiology is concerned. A colored female, aged 38, came to the United States from Central America 14 years ago. Her history is clearly negative as bearing on her present condition. She was seen six or eight months ago in the clinic with a low grade cystitis. Improvement in several weeks led to her discharge. Only bladder instillations were used. She returned to the clinic with indefinite symptoms, to which little attention was paid. About three or four months later I saw her in the ward. She had been admitted with the diagnosis of possible calculous hematuria. I cystoscoped her finding a marked grade of cystitis with pus covering the entire mucosa. Pyelograms and uretograms were negative for any pathology. She was placed on bladder instillations and again cystoscoped in four days. The bladder was very tolerant and showed a number of lesions above the ureteral orifices, laterally, in the fundus, and in the vault. They were not tubercular, but were granulomatous ulcerations and papillary hypertrophic lesions. The condition is clearing with tartar emetic intravenously. Her symptoms date back two to three years. I have been unable to find any ova. The diagnosis to my mind is plainly and clearly that of Bilharziasis, the patient having responded so promptly to tartar emetic medication.

Dr. F. M. John: Did you find ova in the feces? I should like to make a suggestion. The lesion is low in the rectum and often does not mix with the stool at all. If the feces is carefully washed and the water quickly centrifuged, the ova can be found. In the urine they develop so rapidly that they are hard to find.

Dr. Mattes (closing): One stool examination was reported negative by the laboratory.

CASE No. 10.

By Dr. A. Mattes and E. L. Leckert.

A white male patient, age 23, came into the hospital April 28th with the probable diagnosis of appendicitis. At that time he had a leucocyte count of 17,000, with 92% differential, and pain in the right side of the abdomen. No operation was performed, due to the fact that the pain was more lateral than it should have been. No mass

was palpable. There was nothing to indicate that it was anything but appendicitis. However the surgeon did not operate because of the character of the pain and the apparent well being of the patient. The temperature which was 104 began to drop to normal, and then go up and down till the day of operation. The urine at onset showed a few pus cells. Cystoscopic study and X-ray pictures showed clubbing of the calyces of both kidneys, with bilateral retention, in the form of stasis in the renal pelvis. This coupled with tenderness, suggested the diagnosis of a peri-nephritic condition. Heat was applied to the side, for some cases do resolve, for several days with no results. The persistence of pain, a septic temperature after 8 to 10 days prompted intervention. An Edebold's incision carried to the renal fatty pad under local anesthesia failed to show any pus. Aspiration was negative. However, the surgeon was courageous enough to seek with his finger and was amply rewarded with pus so thick that it could be removed with the hands. This perinephritic abscess most probably arose from a cortical abscess of the kidney. The diagnosis should not be delayed till the abscess becomes apparent several days before the death of the patient; or after weeks of suffering, but should be performed early, as in this case, before the palpable mass developed, and before the X-ray could give any information. The patient is here, in apparent good health to attest to the prompt recovery following early drainage. His appendix was not molested.

CASE No. 11.

By Dr. J. Birney Guthrie.

This woman I showed about one month ago at the Medical Section as a diabetic problem. She had been admitted about 10 days before this with blood sugar of about 300 mg. per 100 cc. She had sugar in the urine. There was a marked neuritis. Polyuria was most troublesome associated with vulvar pruritis. We gave insulin from the beginning of treatment reducing the blood sugar to about 200. She was kept on the same diet, CH 52, P 32, F. 66, and we reduced the insulin gradually. In reducing to 200 she had a very severe insulin reaction. This was sufficiently severe to require subcutaneous injections. For several days these reactions occurred at about 208 mg., and the situation seemed a difficult one to get her down to a lower figure. I have contended that a patient who reacts at 200 is still a diabetic. In the method we use, after 48 hours, urinary sugar is no more and cannot be used as a further criterion of treatment. The blood sugar is our only possible guide.

My thesis is "The re-education of the tissue cells to a new state of living by re-establishing normal blood sugar levels." We re-educate the morphine habituate by gradual withdrawal. There are men—

and I believe and know of a number of well known clinicians in this country—who are satisfied to stop in the further reduction of blood sugar on encountering insulin shock. They say, "This is the status in which this patient must live." There they leave the patient. I do not feel that we have done our duty at all to the patient who has had hyperglycemia until we try to bring it down.

We proceeded in this case with the help of Dr. Winters, gradually to withdraw the orange juice, which was supplemental to our standard diet. My custom is to put the patient on a fixed diet and give sufficient orange juice to overcome mild reactions, and gradually take away the orange juice. That our plan here has been successful is evidenced in numbers of cases. In four weeks of treatment we are able to have her now in entire comfort with blood sugar level of 110. With the co-operation of the patient, we have been able to re-educate her. She had become accustomed to living in sugar medium. We have reduced this level away and re-educated her cells into normal life. Re-education of the tissue cells, especially the central nervous system is what we should keep in mind. We have occasional failures where the temperamental nature of the patient keeps her from taking the risk; they hear of the dangers and are afraid to take the risk. This woman at one time made up her mind to go home; the insulin shock was too much and it required much tact and perseverance on the part of Dr. Winters to keep her here to pursue the treatment further.

DISCUSSION.

Dr. R. H. Turner: I did not understand Dr. Guthrie in point of 200 blood sugar; was it during shock?

Dr. J. A. Danna: Does that mean to say that the blood sugar in this case of 200 is normal; can they get their patients at a level of 200 and keep them comfortable and well more easily than you keep her at a level of 100 or 120? Is she more dangerous in this condition than if you let her stay around 200?

Dr. Guthrie (closing): We gave this woman over 60 units at one time; she has acquired considerable tolerance; today she gets 15 units of insulin and endures well a blood sugar of 110. All blood sugar records I am referring to are morning fasting figures. I have no doubt the blood sugars during the insulin shock were lower. I feel this woman is in a very much better condition than if we had yielded to fear and stopped where the first reaction occurred. The neuritis is responding to treatment and so long as she gets her insulin and keeps her diet this improvement will continue. If we give up this type of patient and leave her and other diabetics around 200 mg. we

are giving up the fight. We are abandoning her to her disease. I know of quite a number of diabetics who have blood sugar over 200 and are going on with degeneration and are a menace to life and a disturbance to happiness. We have to make a fight for these people. It takes courage and co-

operation. We have to get the patient up to the point where they are certain to go through with the whole treatment. Dr. Giles believes recurrence of reaction is beneficial to the patient. I feel that we want to avoid the reaction, but, if it does happen, we must meet it by gradually re-educating the tissue to a new habit of living.

NOTICE OF EXAMINATION FOR ENTRANCE
INTO THE REGULAR CORPS OF THE
UNITED STATES PUBLIC HEALTH
SERVICE.

Examination of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:

At Washington, D. C.....	Dec. 6, 1926
At Chicago, Ill.	Dec. 6, 1926
At New Orleans, La.	Dec. 6, 1926
At San Francisco, Cal.	Dec. 6, 1926

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily. oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

MEDICAL INTERNE (PSYCHIATRIC).

Applications for medical interne (psychiatric) will be rated as received until December 30. The examination is to fill vacancies in St. Elizabeth's Hospital, Washington, D. C., at \$1,860 a year, and vacancies in positions requiring similar qualifications at this or higher or lower salaries.

The duties, under immediate supervision, are to admit patients, take histories, make physical and mental examinations and record findings; to make ward rounds of inspection, note charts, record observations; to prescribe for minor ailments or for acute or emergency cases and to dispense medicine in emergency; to perform minor surgical operations and to assist at major operations and in redressing; to administer anesthetics; to make routine laboratory tests and analysis; to assist at out-patient clinics in dressing and in administering vaccines; to keep records, make up case histories, answer correspondence relating to patients, and compile statistics requiring medical training, and perform related duties as required.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the postoffice or customhouse in any city.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

DR. FISHBEIN'S VISIT.

Some itinerary changes having been made in the speaking tour of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, we herewith give it to you as at present arranged.

Monday, December 6th—

Shreveport, 4:00 P. M.—“Fads and Quackery,”
(Doctors only).

8:00 P. M.—(General Public).

Tuesday, December 7th—

Monroe, 11:00 A. M.—“Business Ethics and
Medical Ethics.”

Wednesday, December 8th—

Alexandria, 8:00 P. M.

Thursday, December 9th—

Lake Charles, 10:00 A. M.

Lafayette, 8:00 P. M.—“Business Ethics and
Medical Ethics.”

Friday, December 10th—

Baton Rouge, 10.00 A. M.—(Doctors of Cov-
ington and District invited).

New Orleans, 8:00 P. M.—(General Public in-
vited.) “Twenty-five Years of Medical
Progress.”

REGULAR SEMI-ANNUAL MEETING OF THE FOURTH DISTRICT MEDICAL SOCIETY.

Shreveport, Louisiana, October 5th, 1926, at Inn
Hotel.

Scientific program:

2:00 P. M. Called to order by the President,
Dr. W. B. Hunter.

Welcome doctors, Dr. A. P. Crain, President,
Shreveport Medical Society.

“The Early Diagnosis of Extra Uterine Preg-
nancy,” by Dr. Leroy Scott, Shreveport, La.

“An Unusual Case of Perforating Ulcer of the
Stomach,” by Dr. J. M. Gorton, Shreveport, La.

“Fever in Early Life,” by Dr. Robert T. Lucas,
Shreveport, La.

“Two Unusual Cases in Urology,” Dr. J. R.
Stamper, Shreveport, La.

Dinner, Inn Hotel, at 7:30 P. M.

“The Important Surgical Goiter,” Dr. Jos. E.
Heard, Shreveport, La.

“Femoral and Oblique Inguinal Hernia,” by Dr.
Thomas Ragan, Shreveport, La.

“Mastoid Surgery,” by Dr. John L. Scales,
Shreveport, La.

“The Value of Otology in Relation to Diagnosis
and Location of Brain Lesions,” by Dr. L. W.
Gorton, Shreveport, La.

Election of Officers.

Officers elected for 1927:

President, Dr. John L. Scales, Shreveport.

Vice-President, Dr. M. M. Collins, Houston; Dr.
R. T. Lucas, Shreveport.

Secretary-Treasurer, Dr. Leroy Scott, Shreve-
port.

MONTHLY BULLETIN SHREVEPORT MEDICAL SOCIETY.

October, 1926.

Minutes of the Meeting, September 7, 1926.

The regular monthly meeting of the Shreveport
Medical Society was called to order at 8:30 P. M.
by President Crain at the Pines Sanitorium, with
twenty-five members present and five visitors:
Drs. M. S. LeDoux, E. A. Schmidt, Messrs. Geo.
Freeman, Paul Abramson and Ernest Weinfield.
Since there was no August meeting, minutes of
the July meeting were read and adopted. The
Secretary read a letter from Dr. Gessner to Dr.
S. C. Barrow, Councilor of the Fourth District,
relative to a visit of Dr. Fishbein in the interest
of organized medicine, also a communication from
the Medical Economics relative to an advertising
campaign in the daily press on health matters.
Also a card of thanks from the family of Dr.
Helen E. Hinton for the floral offering sent by
the Society.

REPORT OF COMMITTEES.

Dr. Barrow reported that favorable action had
been taken by the Committee on the application
of Dr. M. S. LeDoux.

SCIENTIFIC PROGRAM.

Dr. Boyce gave us a “Few Touches on Endo-
crinology,” reporting a series of cases under his
observation. His paper was quite interesting, and
was discussed rather freely by Drs. Knighton,
Ragan, Lucas, and Boyce in closing. Dr. Gowen
had a very good display of X-ray plates of Tubercu-
lar chests taken before and after treatment at
the Pines, together with clinical history and pro-
gress. Discussion by Drs. Ragan, Butler, Knight-
ton, Barrow and Gilmer, who gave an abstract of
an article in the Southern Medical Journal on the
decline of Tuberculosis.

CLINICAL CASES.

Dr. Butler exhibited two interesting gross specimens of tubercular heart, also one of a ruptured aortic aneurism into the peri-cardium of a boy seven years old.

NEW BUSINESS.

Dr. Knighton made a motion that the application of Dr. M. S. LeDoux be accepted which was carried unanimously. Dr. Barrow called further attention to a letter regarding Dr. Fishbein. After some discussion, Dr. Lucas moved that the matter be left to the committee on public meeting, held over from last year, Dr. Knighton, Chairman. It was moved and seconded that the letter from the Medical Economics be left to the Committee on Legislation and Public Health.

Dr. Barrow, as Councilor for the Fourth District, called the attention of the Society to the next meeting of the Fourth District, and made a motion that it take the place of our October meeting and that the Shreveport Medical Society furnish a good dinner to the Fourth District Society, the details of which to be left to our Entertainment Committee, composed of Drs. Lucas, Sanderson and Adair.

The President instructed the Secretary to notify the Memorial Committee concerning the death of Dr. Hinton in order that proper resolutions might be adopted.

Dr. Abramson gave the Society a short address of welcome to the Pines, as well as an invitation to come again.

There being no further business, the Society adjourned at 10:30 P. M. after which refreshments were served in the main dining room compliments from the management, and needless to say, were enjoyed by all.

W. R. HARWELL, Secretary.

Dr. Oscar Dowling, President of the Louisiana State Board of Health, after a sojourn of three months at Ancon, Colon and Panama in the Canal Zone, returned to New Orleans October 15th. Dr. Dowling, always interested in the welfare of the New Orleans Medical and Surgical Journal, gave the periodical such publicity while in the Zone that there may be a combination of the medical societies of the Zone and those of our own State, that will be of interest and profit to both. Dr. Dowling was good enough to send us a letter which we take pleasure in publishing.

EAST BATON ROUGE MEDICAL SOCIETY.

The regular meeting of the East Baton Rouge Medical Society was held at the Istrouma Hotel with the following members present:

Drs. Cecil and Lionel Lorio, J. A. Tucker, Rufus Jackson, F. O. Darbey, J. M. Adams, W. A. Pipes, S. D. Porter, W. R. Edison, and C. A. Weiss.

The following papers were read and freely discussed:

Preliminary report on the use of dilute hydrochloric acid in the treatment of high blood pressure, by Dr. J. A. Tucker.

Intestinal parasites, by Dr. W. A. Pipes.

Report and presentation of case of Hodgkins disease in boy ten years of age, Dr. Cecil Lorio.

It was decided to postpone the date of the fall meeting of the Sixth District Medical Society from November to December to make the date coincide with the date of the contemplated visit of Dr. Morris Fishbein to this section.

Meeting then adjourned.

The regular meeting of the New Orleans Gynecological and Obstetrical Society was held Thursday, October 14, at 8 P. M., at the Baptist Hospital on Napoleon Avenue. Meetings this year will be held at intervals of two months, instead of once a month as heretofore.

1. The importance of careful examination before and thorough exploration at the time of operation, Dr. P. B. Salatch.

2. A case of repeated tubal pregnancy on the right, followed by normal pregnancy, all within 10 months, Dr. A. H. Gladden, Jr.

3. Dr. Joseph Hume (by invitation) read a paper before the Society.

4. Obstetrics and gynecology in the clinics of Scandinavia, Dr. C. Jeff Miller.

DIED: Dr. Charles S. Mercier, one of the oldest practicing physicians in New Orleans, on September 24, 1926. He was 72 years old. Dr. Armand Mercier, the father of Dr. Mercier, was learned in medical lore and was an outstanding figure in the city during his lifetime. Dr. Mercier is survived by his widow; three daughters, Adele, Aida and Aline; a son, Armand; a sister, Mrs. Jeanne White; and a brother, Evans Mercier.

Dr. Mercier, venerable, kindly and philosophical, was known not only for his many charitable deeds but also for his knowledge of scientific matters and his love for the arts and literature.

Dr. E. Denegre Martin, Dean of the Graduate School of Medicine, has recently returned from Chicago where he had occasion to discuss matters regarding the Graduate School with the members

of the Council on Medical Education of the A. M. A., who expressed themselves as being more than pleased with the splendid work being done here for the profession of the South.

Dr. A. K. Duncan, of the Graduate School of Medicine, addressed the meeting of the St. Tammany Parish Medical Society at Mandeville, La., on Friday, October 8th, 1926, at eight P. M., the subject of the lecture being "Some Phases in Clinical Diagnosis."

Dr. A. L. Levin, of the Graduate School of Medicine, lectured to the members of the Washington Parish Medical Society, Thursday, October 28th, 1926, on "Practical Points in the Diagnosis and Treatment of Gastro-Intestinal Diseases."

Dr. R. H. Clark, recently of Charity Hospital, has now associated in practice with Dr. T. T. Batson of Hattiesburg, Mississippi.

AN AID TO THE MEDICAL PRACTITIONER.

Physicians treating venereal disease cases have frequently expressed a need for a pamphlet containing instructions and advice to be given to venereal disease patients. Due to the nature of these diseases and the regimen which proper treatment requires, the need for such a publication has

long been apparent. Some time ago the U. S. Public Health Service prepared a pamphlet known as "Important Confidential Information," expressly for this purpose. The leaflet is in two parts, one dealing with Gonorrhea and the other with Syphilis. Advice is given among other points on the following: Importance of continuing treatment until cured, proper diet while under treatment, proper care to prevent the spread of the disease, the futility and danger of quacks and self-treatment, sex conduct and marriage.

Many physicians have found this publication a valuable aid in securing the co-operation of the patient while under treatment and also as an aid in holding the patient until cured or rendered non-infectious. Copies of this publication are available from most State Departments of Health or they may be secured by writing to the U. S. Public Health Service, Washington, D. C.

NEW NEGRO HOSPITAL FOR NEW ORLEANS

The negro residents of New Orleans have started a campaign for the purpose of raising, among themselves, sufficient funds for the construction of the three-story hospital which will have a staff of negro physicians and nurses to serve their race. Such a hospital is certainly needed here and we trust the necessary funds will soon be forthcoming. Already they have raised \$12,000 for the purpose.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

THE WALTER REED COMMISSION.

The Medical Society of Virginia has established a Commission "to raise a fund, a part of which will be used to purchase the Walter Reed home in Gloucester county, Virginia, his birthplace. This can be purchased and put in repair for \$1,500.00. The remainder of the fund will go to establish the Walter Reed Chair for research work at the University of Virginia, as a memorial to him."

President T. E. Ross, of the Mississippi State Medical Association, has appointed the following commission to co-operate in this most worthy movement:

George Baskerville, Greenwood; L. C. Feemster, Tupelo; V. B. Philpot, Houston; L. L. Lippincott, Vicksburg; W. W. Smithson, Jackson; W. W. Crawford, Hattiesburg; J. W. Gray, Clarksdale; H. L. Rush, Meridian; J. C. McNair, Natchez; T. Borum, Corinth.

It was announced that the bonds for the new Insane Hospital would be marketed early in October.

Plans are under way for a \$250,000 brick fire-proof hospital building for Biloxi which will be four stories and contain room for 100 beds and additional quarters for 100 more. The building now being used will be moved back and used for a nurses' quarters. A special maternity department will be a feature. There also will be a complete X-ray and laboratory departments, and separate wing for negroes.

The bi-monthly meeting of the East Mississippi Medical Society was held at Philadelphia Thursday evening, October 7, at 7 o'clock. The program was as follows:

"The Importance of Early Diagnosis of Tuberculosis," Dr. T. D. Bordeaux.

"Diagnosis and Treatment of Diseases of Antrum," Dr. G. W. Bounds.

"Treatment of Scarlet Fever with Streptococcus Antitoxin," Dr. F. G. Riley.

Through the efforts of Dr. Lowry Rush, secretary of the society, the Gulf, Mobile & Northern railroad operated a special train to Philadelphia before the meeting.

Dr. R. B. Austin, of Sebastopol, Mississippi, died on September 10, 1926. He was in active

practice in the vicinity of Sebastopol for nearly forty-seven years. In his death the community has lost one of its best citizens and one of its most efficient physicians.

Dr. J. L. Parks, of Harperville, has moved to Pelahatchee, Mississippi.

Dr. J. A. King has moved to Rome, Mississippi, where he will be in active practice.

Dr. J. A. Neill, of Forest, Mississippi, spent his vacation, during the month of September, in Miami, Florida, and Waldo, Arkansas.

The Central Medical Society met on the 21st of September with a good attendance. Dr. R. W. Hall, the secretary, and Dr. George Adkins were absent on account of court where they were witnesses in behalf of Dr. J. H. Rush, of Meridian.

Dr. F. E. Rehfeldt is back at his office after undergoing a tonsillectomy.

The Central Medical Society will be well represented at the Southern Medical Meeting in Atlanta.

Dr. Boyken, Superintendent at the Charity Hospital, Jackson, announced that he would close that institution for the next few months on account of a shortage of funds.

Dr. W. W. Diamond, who has been with the State Hospital for several months, has entered general practice in Jackson.

Dr. David Walley, who has been Superintendent of the State Hospital at Jackson, has located in Jackson to practice surgery.

The Tri-County Medical Society met in Brookhaven as guests of the Brookhaven doctors at luncheon at the King's Daughter's Hospital. The following program was rendered: "Prostatectomy," L. D. Dickerson; "Whooping Cough," J. C. White; "Local Infection," H. R. Fairfax.

Dr. W. C. Carraway of Forest, Mississippi, has recently returned from Hot Springs, Arkansas.

Dr. Flint Harralson, now of the Public Health Service of New York City, visited his old home in Forest during the month of September.

On October 12th, at Vicksburg, the doctors from Sharkey, Claiborne, and Issaquena met with

the Warren Medical Society to discuss the union of these four counties into one society.

The Tate Medical Society is considering joining the North Mississippi Six-County Society.

The Health Officer of Tate County reports much interest lately in inoculation against typhoid and against diphtheria.

The Tate County Medical Society announces that its next meeting will be held at Coldwater on the night of the second Tuesday of November.

The Editor of this column wishes to take this occasion to state that the efforts of the various County Society reporters have given him much to be thankful for, and in return he hopes that they will have a good Thanksgiving and that they will be able to enjoy it.

The Homochitto Valley Medical Society at the regular meeting at Natchez, October 7, elected the following officers for 1927:

President—Dr. J. W. Brumfield, Gloster, Miss.

Vice-Presidents — Adams County, Dr. J. D. Shields, Pine Ridge, Miss.; Amite county, Dr. W. J. Grady, Stephenson, Miss.; Franklin county, Dr. J. W. Walker, Meadville, Miss.; Wilkinson county, Dr. R. J. Fields, Fayette, Miss.

Secretary-Treasurer—Dr. L. S. Gaudet, Natchez, Miss.

Delegates and Alternates—Adams, Dr. E. E. Benoist, Dr. M. Beekman; Amite, Dr. W. R. Brumfield, Dr. J. E. Hemitt; Franklin, Dr. C. E. Mullen, Dr. L. W. Walker; Jefferson, Dr. J. C. McNair, Dr. B. R. Clark; Wilkinson, Dr. C. E. Cathings, Dr. J. R. Fields.

Board of Censors—Dr. L. H. Lamkin, Dr. J. S. Ullman, Dr. J. C. McNair.

Medical Defense—Dr. W. H. Aikman.

The next meeting of the Homochitto Valley Medical Society will be January 13, 1927.

Dr. J. S. Ullman, Natchez, read a paper on "Carcinoma of the Cervix Uteri" before the Jefferson County Medical Society at Birmingham, Alabama, October 4.

The Greene County Board of Supervisors at Leaksville by unanimous vote arranged an \$8,000 budget for a full-time county health department to begin January 1, 1927.

The North Mississippi Medical Society met at Aberdeen on Tuesday, September 31st. A splen-

did scientific program was rendered during the day, followed by a banquet at 7 o'clock in the evening, at which time one of the most delightful social entertainments in the history of the society was given, which included esthetic dancing, readings, and speeches.

As we go to press, the Annual Health Officers' Conference announces the following program to be given in Jackson, October 21 and 22:

1. The Role of Municipal Sanitary Surveys in the Program of a County Health Department.
Dr. C. St. C. Guild, Tupelo
2. Shellfish Sanitation.
H. A. Kroeze, Jackson
3. The Feasibility of an Intensive Excreta Disposal Campaign in Municipalities.
J. M. Kittrel, Laurel
4. The Public Health Office and Office Display Material as an Aid to Public Health Education.
C. P. Coogle, Greenwood
5. The Value of Newspaper Publicity to a Health Program.
Sylvan Myers, Vicksburg
6. Round Table Discussion on Medical Examination of School Children.
7. The Foundation of Sound Teeth.
W. R. Wright, Jackson
8. The Relationship between the Central Organization and County Health Departments and between the Health Officer and the Physician.
Felix J. Underwood, Jackson
9. Whole Time County Health Work.
Surgeon L. L. Lumsden, U. S., Public Health Service, Washington, D. C.
10. An Address.
A. T. McCormick, State Board of Health, Louisville, Ky.
11. The Role of the Preventorium in an Anti-Tuberculosis Campaign.
Mrs. R. S. Phifer, Jackson.
12. An Outline of Anti-Tuberculosis Measures Suitable for Incorporation in a General Health Program.
Henry Boswell, Sanatorium
13. A Practical All the Year Program for a County Health Department.
J. B. Black, Jackson
14. The Role of the State Epidemiologist in the Control of Communicable Diseases.
Hardie R. Hays, Jackson

15. **Financing County Health Departments.**
 Dan J. Williams, Gulfport

Dr. John McMullen, Medical Director of the Southern Area of the United States Public Health Service, was a visitor to Hattiesburg and Laurel on the 8th and 9th of September.

He was the guest of the South Mississippi Medical Society which met in Laurel on the 9th and addressed the Society.

Whereas, God in his wisdom has taken from among us two of our most useful and beloved physicians, Doctors S. S. Turner and J. D. Donald,

Be it resolved, by the South Mississippi Medical Society, in meeting assembled:

1st. That we have lost two of our most useful members and the public two of its greatest and most unselfish servants.

2nd. That we feel keenly the loss of these two friends and professional brothers and extend to their families our profound and heartfelt sympathy.

3rd. That we commend the lives of these two men to the young manhood of our commonwealth. They were honorable, ethical, unselfish, devoted to their families, to their patients, to their country, and to their God. They rendered service willingly to the needy regardless of financial return and, no doubt, by their continuous and earnest work cut short their years and deprived themselves of a happy old age.

4th. That a copy of these resolutions be mailed to each of the families, be spread upon the minutes

of the meeting, and be published in the Hattiesburg American.

C. E. HIGHTOWER,
 W. D. BEACHAM, Committee.

RESOLUTIONS

On the Death of Dr. D. C. Warren of Union Church, Mississippi.

Adopted by the Homochitto Valley Medical Society at its regular meeting, October 7, 1926.

Whereas, this Society has lost one of its oldest and best members by the recent death of Dr. D. C. Warren, of Union Church, Mississippi; and,

Whereas, we feel most keenly the loss of his valued wisdom and counsel in our meetings, therefore, be it

Resolved, that we hereby express our deepest and most heartfelt sympathy to the bereaved family; and be it further

Resolved, that a copy of these resolutions be spread on our minutes and be published in the New Orleans Medical and Surgical Journal.

PHILIP BEEKMAN, M. D., Chairman.
 J. W. DICKS, M. D.
 J. S. ULLMAN, M. D.

Mrs. Mattie Leahy, Red Cross Nurse, Natchez, Mississippi, will devote her entire time during the coming year as school nurse to the public and parochial schools.

BOOK REVIEWS

Ophthalmic Neuro-myology: By G. C. Savage, M. D., L.L. D. 2d ed. Pub. by Author. 1926.

Popular medical writers and speakers are expected to extract their effusions largely from the memoirs of the King of Bunk, the Prince of Impracticality, and the Duke of Ambiguity. As with George Ade's school chairman who left his carefully prepared, set, and censored speech in his other suit and at the critical moment had to either sit down or tell the plain truth; a medical writer occasionally departs from tradition sufficiently to express his own ideas, in his own words, and in his own manner and usually says something worth while.

If you have attended many ophthalmic meetings, you have often seen a tall, sharp featured, elderly, gentleman dressed in a long coat. That is Dr. Savage. His hobby is the function of the extra-ocular muscles, about which he has thought long and hard.

Although my imagination is not able to picture his numerous cortical ocular motive centers hitting on all six and I believe that fewer technical terms would have made his many excellent ideas more easily understood by the large majority. We are indebted to him for having really expressed his knowledge in his own way. I have his book in my library partly because of its technical value and also as a remembrance of a doctor who has devoted much effort to the study of a definite subject, who has original ideas, and is not afraid to express them. Most of us are so accustomed to second hand ideas that we get mental colic at the mere thought of any thing else.

If the average medical writer would come down from his Sinai of Egotism long enough to discuss what he knows in a simple practical way and in concise understandable English, more patients would get well. It is so much easier and more profitable to rehash again the dear old ideas, soaked in mysticism, fried in uselessness and spiced with ambiguity; than to break with tradition and make getting well in the simplest and most practical way, our real excuse for consuming perfectly good paper and ink. Very few of us have the courage to expound the medical doctrines of frankness, simplicity, and practically to a befuddled profession and still more befuddled public.

In the last analysis, but few things really matter much. Books and doctors and theories and ideas will come and go forever. Dr. Savage has the advantage over most of us. He has really thought long and hard about a concrete medical

problem and has expressed his ideas in his own way and in his own words. Who has done more?

CHAS. A. BAHN, M. D.

The Treatment of Fractures: By Chas. Locke Scudder, A. B., Ph. B., M. D., F. A. C. S. 10th ed. rev. Philadelphia & London, W. B. Saunders Co. 1926.

In this edition, new material has been added; several chapters have also been enlarged and revised. However, many "historically interesting methods"—long antiquated—are still described. By eliminating these and confining the text to the actually used methods of treatment, a more modern savor and greater practicability would result.

The preparation of special subject (pathological fractures, bone repair, fractures of the maxilla and mandible, massage, anesthesia and anesthetics, and birth fractures) by men of experience and training greatly enhances the value of this work.

Emphasis is placed on the Carrel-Dakin treatment of compound fractures; the prevention of shock by skilled immediate treatment of fractures; the necessity for an X-ray of every fracture; the value of the early active movement of septic joints (Willem treatment); the necessity for the early active movement of joints contiguous to the fracture; the value of early active and passive movements of joints; the superiority of the Whitman method of treating fractures of the neck of the femur and the less promiscuous use of metallic plates and sutures.

The chapter on Peripheral Nerve Injuries associated with Fractures is timely. The operative treatment of fractures is presented as a "system by itself apart from its application to any particular fracture."

Not enough stress is placed upon the use of plaster of Paris which is now universally recognized as superior to the time worn board splints.

This edition, like its many predecessors, maintaining its authoritative standard is of value both as a text for the student and as a reference to every "surgeon of traumatism."

PAUL J. LACROIX, M. D.

Birth Control and the State: By C. P. Blacker, M. C., M. A., M. R. C. S., L. R. C. P. New York, E. P. Dutton & Co. 1926.

This little book has been written by an English physician in an endeavor to appeal both to the general public and to the medical profession in

favor of the dissemination of contraceptive information by the Ministry of Health. The author takes up the various arguments against the practice of contraception, based on its alleged deleterious effects both on the individual and on the State, and attempts to refute them. He also considers the opposition to birth control on the part of the various religions, as well as the militaristic attitude of certain nations, which leads them to encourage overpopulation.

The chief contention advanced is that in many countries of the world, e. g., India and Japan, overpopulation is at present a real menace, especially as the increase is found almost exclusively in the more undesirable elements of the population. He recognizes the fact that increased fertility is much to be desired in the upper and middle classes. He argues that unrestricted increase in these already overcrowded countries may be one of the causes of a future world war, which might well be so devastating as to cause the collapse of western civilization.

The book is an interesting and well written discussion of this question, whether one is in favor of birth control or not. Its brevity and conciseness are especially commendable.

E. L. KING, M. D.

Edgar's Practice of Obstetrics: By J. Clifton Edgar, M. D. New York, P. Blakiston's Son & Co. 1926.

Systematically paragraphed; is well written in type and composition. The various subjects on obstetrics are discussed in details in proportion to their importance, and the more recent additions of therapeutic armanentarium are well emphasized.

The text has 684 illustrations, well depicting either histological representation or details in technical manipulation.

A. JACOB, M. D.

PUBLICATIONS RECEIVED.

D. Appleton & Company, New York & London: "Clinical Pediatrics" series, v. 1 "Prenatal Care," by Ralph W. Lobenstine, M. D. & Harold C. Bailey, M. D.; v. 2 "The Newborn, Physiology and Care," by Clifford G. Grulee, M. D. & Barnet E. Bonar, M. D.; vol. 3 "The Newborn, Diseases and Abnormalities," by Clifford G. Grulee, M. D. & Barnet E. Bonar, M. D.; v. 4 "Preventive Pediatrics," by Borden S. Veeder, M. D.; v. 5 "Disorders of the Nervous System in Childhood," by Bronson Crothers, M. D.

G. P. Putnam's Sons, New York & London: "The Human Body," by Marie Carmichael Stopes.

J. B. Lippincott Company, Philadelphia & London: "International Clinics," 36th series, v. 3.

Harvard University Press, Cambridge: "Principles of Medical Treatment," by George Cheever Shattuck, M. D.

Southern Surgical Association, Philadelphia: Transactions, v. 38. 1925.

REPRINTS.

"Case of Acute Mastoiditis with Late Babyrinitis," "Acute Otitis Media and Uremia," "Case of Acute Otitis Media Accompanied with Paralysis of the Facial Nerve," "Some Physical Intranasal Conditions Favoring Involvement of the Nasal Accessory Sinuses," by Myron Metzenbaum, M. D. "The Trigone of the Bladder as a Factor in Urinary Obstruction," by Frank Hinman, M. D. & Miley B. Wesson, M. D. "The Treatment of Roentgen-ray Nails," "Management of the Post Influenzal State," by Curran Pope, M. D. "Industrial Hernia Versus Seminal Vesiculitis and Vasitis," "The Importance of Buck's and Colles' Fasciae in Urinary Extravasation," "The Treatment of Traumatic Rupture of the Kidney," by Miley B. Wesson, M. D.

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No. 6

HEAD INJURIES MARKED BY INTRACRANIAL TENSION.*

F. W. PARHAM, M. D.,

NEW ORLEANS.

As may be inferred from the title, it is not my intention to go into a systematic discussion of cranial injuries, but rather to devote the time allotted to my paper to a consideration of the effects of trauma on the cranial contents, manifested by the development of intracranial pressure or tension.

When an individual has suffered injury to the head, it is often associated with palpable fracture of the skull, but it not infrequently happens that one is put into great jeopardy with no evidence whatever of bone injury. A fracture is to be regarded as an evidence of the severity of the injury rather than as the damage to which our attention should be exclusively or mainly directed. The importance of bone injury is so great that one of our first endeavors should be to ascertain the presence of a fracture. Palpation and inspection generally will suffice, but occasionally exploratory incision of the scalp will be necessary, as long ago suggested by Doctor John B. Roberts, to locate what may prove to be a serious fracture. Thus we shall get by the location and character of the injury a more correct measure of the man's danger. So true is this, that an X-ray examination of the skull should be a part of our routine examination of these

cases, but we must not be satisfied with the determination of a fracture in either of these ways, and this point I wish especially to stress, for it will occasionally be observed that a man with the evidence of a serious fracture will fare better in the end, for reasons hereafter to appear, than one with no evidence whatever of bone damage. Here now appears the crux of the situation. I lay down, then, the proposition that a man's danger is directly proportional to the extent and rate of development of intracranial tension.

In order to make clear the argument it will, perhaps, not be out of place to give first some attention to certain anatomical and physiological considerations connected with the development of intracranial tension.

The first Cameron Lecture delivered by Harvey Cushing¹ before the University of Edinburgh last October was devoted to the study of the third circulation and its channels, in which he discussed the origin, relations, movements and functions of the cerebrospinal fluid. This fluid shows, like the lymphatic circulation, not a true movement in a circle, but nevertheless a continual movement "in a definite direction, through a highly specialized pathway, that cuts across the blood circle, to envelop an organ in which a lymphatic apparatus of the usual type does not exist." This fluid, originating in the choroid plexuses, moves, as stated in definite channels, through the subarachnoid spaces, filling the various numerous spaces at the base known as cisterns, washing the surface of the brain

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

and finally continuing down the spinal canal.

According to the doctrine known as the Monroe-Kellie, which involves certain principles of physics relative to the flow of fluids through an incompressible chamber, the bulk made of the three elements, nervous tissue, blood and fluid, must always remain the same. "Any increase of blood volume, for example, can only take place at the expense of one of the other elements, and conversely a diminished blood volume must be compensated for either by an expansion of the brain or by an increase of cerebrospinal fluid." Thus can we explain cerebral oedema, "for the brain, owing to its sponge-like structure is more capable than any other of the body tissues of taking up fluids, with an enormous and rapid increase in bulk. This led Weed (1919) to make "the discovery that prompt changes in brain volume ensue upon the intravenous injection of hypertonic and hypotonic fluids." To this important discovery we shall return later. We have seen how this fluid comes from the choroid plexuses; it remains to say that it makes its exit through the processes, tufts or villi which bulge into the venous sinuses everywhere in the skull. Through these villi the fluid of the subarachnoid spaces is absorbed and disappears into the blood circulation.

It is important to bear in mind that the subarachnoid space is entirely distinct from the subdural space, which fact would urge that the dura in operation for extradural hemorrhage should always be opened (in the absence of infection) in order to drain the subdural space of blood which left would give rise to the serious remote after-effects of a subdural hematoma—Naffziger,¹² Cushing and others.

Further, the brain is not, like other organs, suspended by ligaments, but is supported from below by the tentorium and the cushions of cerebrospinal fluid on which it rests and which serve to break the force of blows from without.

Now, if intracranial tension is not speedily relieved, soon the medulla becomes anemic, marked by Cheyne-Stokes respiration and other signs of medullary involvement.

This tension may be diminished in several ways:

1. By bleeding.
2. By intravenous injection of concentrated solution of salts.
3. By rectal or stomach ingestion of these salts.
4. By tapping of ventricles or cisterns.
5. By spinal lumbar puncture.
6. By subtemporal decompression.

The relief by bleeding would only very exceptionally be resorted to as has been done by Cushing in certain apoplexies. The dehydration method will be discussed later on. Rawling believes venesection useful. The bleeding should be continued until the pulse becomes soft, frequent and compressible. "The operation frequently turns the scale in favor of the patient."

I shall first discuss lumbar puncture.

While all investigations admit the continuity of the cerebro-spinal subarachnoid spaces, there is considerable difference of opinion regarding the efficacy and the safety of spinal puncture. Those who favor it and practice it as a diagnostic and therapeutic measure maintain the following (Jackson³):

1. That in most acute injuries of the brain the cerebrospinal fluid pressure taken at the lumbar region is a fair index of the severity of the intracranial lesion, and a dependable prognosis may be based upon it.
2. Classification of injuries based on the lumbar puncture alone is more useful than that into concussion, contusion and laceration and compression.
3. Pathogenesis of acute injuries indicates that the principal effect of oedema and hemorrhage is to block absorption by

cumulation of fluid in the basal cisterns below the tentorium and in the lateral ventricles, pressing up the brain and setting up cortical, as well as medullary, anemia.

4. This may be prevented by lumbar puncture as often as may be needed.

Carter,⁴ of Cincinnati, in a most satisfying article, published in February Annals of Surgery, gives his whole-hearted support to spinal puncture, and suggests a classification based on spinal manometric readings:

1. Cases with definite evidence of skull fracture but normal pressure. If the pressure reads normal, no fluid is withdrawn.

2. Cases with evidence of intracranial tension, severe or moderate, diminishing as the punctures are repeated until they show normal reading. Spinal puncture may obviate many decompression operations.

3. Cases with initial high pressure readings. Subsequent punctures show no drop in pressure or an increase. This class calls for early decompression.

4. Cases with high initial spinal pressure where subsequent taps reveal low pressure but no amelioration. Here both spinal drainage and subtemporal decompression fail.

5. Cases with marked evidence of pressure with clear spinal fluid small in amount. Here the suspicion of extradural hemorrhage is strong, and spinal drainage may do harm. Localizing signs may here call for decompression.

J. B. Ayer⁵ is very clear. "Numbers of workers," he says, "testify to the value of the method as an all-important guide in the reduction of intracranial pressure." "By the slow withdrawal of fluid to normal or nearly normal pressure, it has been found possible to postpone operation beyond the period of shock, and in some cases even to dispense with operation." Jackson³ in 1922 thinks Cushing's undue stress on the value of blood-pressure indications has done harm by diverting attention from spinal

puncture. The symptoms usually depended on, high blood pressure, slow pulse and stertorous respiration, are really late symptoms, due to medullary pressure. To forestall the danger, the spinal pressure manometer anticipates this by many hours. Spinal puncture relieves medullary pressure, being subtentorial, more distinctly than subtemporal decompression which is supratentorial. Jackson's views were derived from a clinical study of one hundred human cases, besides experiments on dogs.

He quotes from Quincke,³ the real father of lumbar puncture, who writes in 1905 as follows: "In acute brain injuries the symptoms often fail us. * * * It is in these cases that *the estimation of the cerebrospinal fluid pressure* is of most importance and the best results gotten by lumbar drainage." Jackson believes that with the spinal manometer we can get much earlier information and institute much **more** effective treatment by the spinal method than by dependence on symptoms.

Bower⁶ is of the same opinion. "Lumbar puncture," he says, "with spinal fluid pressure observation is essential to proper management." In certain cases operation may be thus avoided. It is important in borderline cases, because there may be increased intracranial pressure without increase in general blood pressure." We have already referred to B. N. Carter's⁴ views in agreement with this.

Rand and Nielsen⁷ in a study of 175 cases with fractures of the skull used it in all cases where something more than concussion was suspected and found bloody cerebrospinal fluid in 85% of the cases. They found the spinal puncture of more value diagnostically than examination of the eye grounds in the first few hours. Therapeutically spinal puncture they think very valuable.

MacLaire⁸ thinks the mercurial manometer and its interpretation absolutely essential to determine intracranial pressure. He treats oedema of brain and intracranial hemorrhage (not extra-dural)

by dehydration and lumbar puncture. These failing, subtemporal or suboccipital decompression will be indicated. Donald Munroe⁹ is heartily in favor of it after a carefully planned comparative study of cases treated on three services in Boston City Hospital by three different plans. The cases on his service were 99. Of these the mortality was 14%. Sixty of them were treated by lumbar puncture alone with a mortality of 12%. The comparative result on the three services during one year was "lower mortality following puncture than by any other method." Sharpe²⁶ thinks it valuable as a diagnostic measure but urges that not more than 5 cc. should be drawn, simply to get the pressure. He is chary of its use therapeutically, although, as Bower says, of over 1600 punctures, he had only three deaths in cases, done by internes, two being tumor cases and one internal hydrocephalus. By repeated lumbar punctures and ophthalmoscopic examination, disastrous intracranial pressure may be anticipated and timely subtemporal decompression and cranial drainage turn the tide. He thinks the use of repeated puncture of the cisterna magna will be of great value in selected cases.

Thus it would appear there is strong evidence in favor of lumbar puncture as a therapeutic as well as diagnostic measure; there are, however, some discordant notes to be found in the literature. Thus, Ernest Sachs¹⁰ speaks of it as unnecessary and unsafe. "I have seen," he says, "two deaths from puncture in fracture cases and there are many unrecorded cases that I have heard of." He repeats these statements again in *J. A. M. A.* 81:2159.¹⁰ He sees no necessity for it even as a diagnostic aid. He has "seen the same thing happen after lumbar puncture in head injuries that has happened so frequently from lumbar puncture in brain tumor cases—sudden death," and mentions two. This seems somewhat inconsistent when we note further that he says frequently in a decompression operation the intracranial tension is so great that if the ventricles are not tapped, there

would be a sudden protrusion and rupture of the cortex. Sachs is driven to ventricular puncture because he has just as little use for dehydration methods. Jackson would use spinal puncture in just such junctures, while Weaver,²¹ Dowman,²⁰ Foley¹⁹ and others would resort to intravenous or gastrointestinal dehydration with salt solutions. We shall speak of this directly. Fürbinger in 1897 sounded a warning in tumor cases and Archibald¹¹ (*American Practice of Surgery*, Vol. 5:141) gives the notes of a case where he felt that the lumbar puncture was the precipitating cause of death. Case of a jockey with B. P. 190:15 cc. withdrawn by lumbar puncture, pulse immediately failed and patient sank. At autopsy a large intracranial clot was found. This case does not conclusively place the onus on spinal puncture. If there was a mistake it was perhaps in drawing the fluid too rapidly and too much. The post mortem notes do not mention descent of the bulb and cerebellum into the foramen. Rawling² writes: "In spite of the apparent advantage of this method, it must, I think be acknowledged that lumbar puncture is of but little use in reducing intracranial pressure." "This statement is at variance with the opinion of other surgeons." He thinks it useful in diagnosis, but is doubtful if it assists prognosis.

Naffziger¹² calls attention to those cases where the fluid accumulation is subdural and not subarachnoid, probably due to a tear in the arachnoid membrane. Spinal drainage palliates such cases only by diminishing the amount of fluid to flow over through the rent. The real indication is to do a decompression with opening of the dura and drainage. This condition corresponds to that of cases in Dowman and Weaver's Class E,²¹ which they treat by intravenous or gastrointestinal concentrated salt solution.

Much of this discrepancy of view is due perhaps largely to lack of care in doing lumbar puncture. Da Costa,¹³ for instance, states the normal pressure, but does not

give the position of the patient. Others condemn it without using a manometer. Estimation by counting of drops from the needle, Ayers condemns very severely. Many times he has seen it come by spurts when the manometer indicates really low pressure and vice versa. He calls attention to certain pitfalls; as coughing, sneezing, holding breath, grunting and even bending or constriction of neck, will raise the pressure. Queckenstedt's phenomenon³⁰ (1916) whereby jugular pressure causes increased flow from the needle, indicates how easily the flow is altered. Landon¹⁵ in 1917 lays down specific directions. The patient should be in the left horizontal position. The pressure normally will vary 6 to 10 mm. HG. with an average of 8 mm., whereas in the sitting position, it may go as high as 35 mm. This is, therefore, of great importance.

H. M. Green³² lays great stress on the fineness of the needle, urging one of gage 22 as best adapted to prevent trauma.

Finally, Levison,¹⁶ in his excellent treatise on the cerebrospinal fluid (1923) says there are few contraindications to spinal puncture; while less safe in brain tumors even here it may be done if the pulse, respiration and reflexes are watched. "Lumbar puncture when indicated should not be feared on account of complications." The weight of evidence is in favor of lumbar puncture as an efficient diagnostic and therapeutic agent, without serious danger if properly carried out.

THE EFFECTS OF DEHYDRATION.

Weed and McKibben¹⁷ under Cushing's stimulating influence showed experimentally (1919) that the pressure of the cerebrospinal fluid and the bulk of the brain can be affected by the intravenous use of certain salts. Foley and Putnam¹⁸ have shown that these concentrated salt solutions given by stomach or intestine will have the same effect although more slowly. Cushing and Foley showed decided influence of ingestion of these salts, and Foley¹⁹ has discussed the clinical uses of concentrated

salts in increased intracranial tension, showing by spinal puncture in the reduction of cranial hernias undoubted effects. Dowman²⁰ and Weaver²¹ both commend in Class E of their classification the administration of $\frac{1}{2}$ ounce of saturated solution, $Mg SO_4$, every two hours for forty-eight hours. Dowman speaks of the fluid in these cases as being subdural and not subarachnoid, cases which Naffziger says can only be partially relieved by spinal puncture, the only relief obtained being by drawing off through the spinal needle fluid which might pour through a rent in the arachnoid into the subdural space. These cases he thinks best treated by decompression and subdural drainage.

Fay²³ has gone into an elaborate investigation of the comparative value of hypertonic chloride solutions and saturated Magn. Sulph. Solutions, finding the latter much more efficient than the chloride of sodium, and reports that by its use by ingestion or enema they have in Frazier's²² Clinic almost abandoned subtemporal decompression. Yet Morrissey,²⁴ after an extensive study of magnesium sulph. pronounces it valueless as a decompressive agent. "Cerebral dehydration is probably accomplished to a very slight extent by magnesium sulphate, but the effect of this drug is inadequate and should not be seriously relied on for the reduction of intracranial pressure." But "hypertonic salt solution intravenously has an effective action in reducing intracranial pressure." Spinal puncture, he thinks, removes fluid and accomplishes reduction of pressure or bodily functions as a whole. He believes that no one method of treatment should be used exclusively. Some require subtemporal decompression, while in others spinal punctures or hypertonic dehydration may be best. Grant²⁸ testifies to the same effect.

The first clinical use of hypertonic solutions was reported by Haden²⁷ in September, 1919. He used 25% solution in a case of meningitis, but 40% may be used with

impunity. He refers to the report of Olitzky of an epidemic of meningitis in China in which, in the absence of an adequate supply of immune serum, he used with decided effect lumbar punctures. In this disease, it is desirable to replace fluid removed by immune serum, which again raises the pressure. Here the intravenous use of hypertonic fluids will render valuable aid.

Max M. Peet²⁵ discusses the relative values of the various salts used intravenously. It has been shown that identical results from hypertonic solutions of sodium chloride, Ringer's solution and glucose, are to be obtained. Hypertonic salt solution gives its maximum effect in 30 to 35 minutes, then a return to normal and afterwards a continuous rise. Ward and McKibben thought saline toxic for some animals; it seems to upset the chloride balances. While Ringer's solution has a shorter effective period than glucose, and there is also a terminal intracranial hypertension. Glucose is especially valuable in shock, and can, therefore, be used earlier to reduce intracranial tension. Since Ringer's acts more rapidly Peet has preferred it when there is need for haste and there is no shock. It is, hence, preferable for reducing brain volume in cranial operations. Glucose may be used with advantage after Ringer's to obviate the terminal rise of pressure. Besides it furnishes more calories. Glucose has the following advantages—prolonged action, no terminal rise in tension, increased volume in shock, control of acidosis and prolonged action and nutrient.

Hubert S. Howe,²⁶ after reviewing the work of previous investigations, comes to the conclusion: "That dextrose is the only substance of this group, which is non-toxic and produces a satisfactory fall in intracranial pressure." He has never seen it produce the slightest bad effect on respiration or circulation no matter in what strength or how rapidly given, while sodium chloride is distinctly toxic unless given slowly.

They should all be given slowly, especially Ringer's which should not be given faster than 3 cc. per minute. The best way to give it would be by the intravenous drip recently popularized by Matas³⁹ and others.⁴⁰

Fisher³⁵ and Mensing³⁶ and Snell³⁹ have shown good effects of insulin added to the glucose in the treatment of shock, by increasing the carbohydrate combustion. It is well worth considering in the management of shock in brain injury.

The essential mechanism of this action is osmotic pressure and diffusibility. Where dehydration is desired, magnesium sulphate is preferred by some, by rectal or oral administration as used by Fay in Frazier's Clinic. This has been well shown by Foley¹⁹ in a variety of conditions marked by intracranial tension, such as bulging hernias and preparatory to brain operations, in meningitis, etc. In certain cases of great intracranial tension where it is desirable to do a spinal puncture, a preliminary intravenous injection of a hypertonic salt solution will obviate danger of jamming down of the brain.

Improvement of medullary compression as shown by disappearance of Cheyne-Stokes respiration on introduction of hypertonic solution intravenously is an illustration of its value. This Cushing¹ calls attention to in his Cameron lectures before the University of Edinburgh last year. It shows in a conspicuous manner the powerful osmotic influence of concentrated solutions in dehydration of the brain and medulla.

I have thus, I believe, demonstrated that intracranial tension demands our most careful attention and I have shown the simple means at hand for relieving and controlling this and thus preventing untimely and irreparable damage to the great citadel of life.

DECOMPRESSION.

The last resort is decompression. As shown in Frazier's Clinic the simpler

measures above outlined have been so effective that the operation of decompression has almost been abandoned. Rand and Nielsen⁷ did decompression in only 15% of their cases, yet 85% of these showed blood on spinal puncture. B. N. Carter⁴ decompresses those cases where the intracranial tension is increasing or remains high in spite of spinal puncture. Sachs¹⁰ decompresses if patient continues unconscious or semi-conscious, placing no reliance on spinal puncture, but rather inconsistently does not drain the wound. Sharpe²⁶ operated in about 30% of cases, depending on the response to spinal drainage. Two stages contraindicate operation, that of shock and the terminal one of medullary oedema, or decompensation.

I might go on quoting from the authorities the varying views expressed in literature, but it might prove only tedious and only serve the purpose of showing the uncertain state of management of these conditions. I would prefer to state the conclusions which my study of the more recent literature seems to justify:

1. No operation should be done in the state of shock. This must first be overcome by the usual methods against shock. However, one of the measures calculated to help shock is the intravenous use of strong solutions of glucose as first practiced by Haden to relieve intracranial tension.

2. Until shock is subdued, the time may be profitably spent in getting the history from witnesses and taking pulse, respiration and temperature at intervals, with the blood-pressure.

3. When the shock is relieved then a spinal puncture is made to get the intracranial pressure, always in a horizontal position and after waiting a sufficient time for adjustment before reading the manometer. The manometer is essential.

4. If the reading is moderately high the fluid is allowed to flow until the reading shows normal pressure. This is to be re-

peated at intervals of 24 hours or less in urgent cases.

5. If the reading shows very high pressure, enough fluid is withdrawn to bring the pressure to about one-half at the first puncture.

6. If the case is urgent the lumbar puncture may be aided and protected by an intravenous injection of a 25 to 40% solution of glucose. Danger of medullary jamming is thereby lessened.

7. If at the second puncture the response is satisfactory, the case should continue to be treated by lumbar puncture in conjunction with magnesium sulphate by rectum, preferably, or by stomach ingestion through a duodenal tube.

8. Should these measures fail to relieve the cerebral tension then subtemporal decompression should be done.

9. Subtemporal decompression should always be assisted by drainage unless there is infection. It seems not logical to do a decompression without draining (for not longer than 48 hours) the subtemporal space. Sachs drains in no instance, as he considers it dangerous.

10. In extra or epidural hemorrhage the dura should also be opened if there are other signs of intracranial tension, unless the wound is septic.

11. Cushing, Putnam and many others have shown the bad effects of leaving a subdural hemorrhage, which cannot be drained by lumbar puncture (Naffziger).

12. In bad cases of tension it may be advisable to puncture the ventricle on the side of the decompression.

13. It must be remembered that an intravenous saline or glucose injection will sometimes revive a man already showing Cheyne-Stokes respiration.

14. There is no reason why spinal puncture should not be done in any case where it is indicated. If it be done slowly, watch-

ing the pulse and respiration, it may easily be discontinued before trouble comes.

15. Should there be signs of danger after withdrawal of fluid, the danger may be overcome by an intravenous injection of 30 to 50 cc. of a 25% solution of salt or glucose, which should always be at hand for such emergency.

I should like again to urge that these cases of brain injury should rather be classified on a basis of intracranial tension than on a basis of fracture. This has been done by Stewart Rodman and Neubauer.²⁹

Group 1. No increase in intracranial tension.

2. Moderate increase.

3. Marked increase.

After the stage of shock is passed the following observations can be made to determine the group.

A. General examination with neurological findings.

B. Temperature, pulse and respiration with blood-pressure every four hours.

C. X-ray of skull.

D. Spinal puncture with manometer readings.

Group 1 will include those cases with normal or nearly normal blood-pressure and a spinal pressure of 8 to 10 mm. Hg. To these may be added normal temperature, pulse and respiration, primary unconsciousness, succeeded by headache and dizziness.

Treatment: Rest in bed (4 or 5 days).
Ice cap to head.
Sedatives as needed.

Group 2. Cases showing manometer reading 10 to 18 mm. Hg., moderate rise in blood pressure, temperature and pulse rate and normal respiration. Primary unconsciousness, followed by dazing and headache, with later some mild confusion or de-

lirium. Eye grounds will show some retinal venous congestion.

Treatment: Rest in bed—ice cap. Elevation of head of bed with therapeutic spinal puncture, drawing 10 to 25 cc. as often as necessary to reduce the reading to 8 to 10 mm. Hg., and the intravenous injection of hypertonic saline or Fay's magnesium sulphate by rectum.

They think fully 70% of cases will fall into these two groups.

Group 3 will include those cases showing a spinal pressure above 18 mm. Hg. with increased blood pressure, falling as the stage progresses. Pulse pressure is more valuable than systolic or diastolic readings; when the pulse pressure equals the pulse rate a good single indication for operation exists. These cases show a normal or slightly elevated temperature until medullary oedema supervenes when hyperpyrexia begins. The pulse becomes slower and bounding until it becomes subnormal as pressure advances. Stupor and coma close the scene. The eye grounds show congestion and paling.

The group calls for subtemporal decompression with drainage.

Scalp wounds, fractures of the cranium, intracranial hemorrhage, penetration of foreign bodies and localizing pressures are to be regarded as complications and treated according to the operative indications.

Such a classification would put treatment on a rational basis and the cases could be more intelligently selected for special plans of treatment.

Finally, there is no reason why we should confine ourselves to one method of reducing intracranial pressure, when a combination might give better results.

If I have succeeded in indicating in this paper a rational method of management of

these cases of head injuries, I shall feel fully repaid for my hunt through the rather confusing views found in the literature.

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DISCUSSION.

Dr. Landry (New Orleans): In his very recent review on intracranial trauma, Frazier found that the literature during the past year has continued to emphasize the tendency toward conservatism.

While it is impossible to set down any positive dictum or hard and fast rules to govern the treatment of these serious traumatism,—as each case must be considered on its own merits,—still, we believe that the recommendations of Rand and Nielsen are well worth considering.

1st. They emphatically state that no case should be operated in shock.

2nd. Local anesthesia is preferable whenever possible.

3rd. Operate upon all cases where a local hemorrhage is suspected, as they believe it safer to remove the clot than to depend on absorption.

4th. In external hemorrhage, the dura should be opened, to be certain that there is no subdural clot as well.

5th. Compound fractures, require immediate attention, whether depressed or not.

Frazier has this to say of the extradural hemorrhages of middle meningeal origin: "These cases respond dramatically if the condition be recognized sufficiently early. Whenever a case of this type perishes, it is wholly and entirely due to our inability to arrive at a correct conception of the existing pathology in time to relieve the intracranial pressure by decompression before the vital medullary centers have been so badly injured that they no longer function. Speed in diagnosis and operation is the essence of the treatment under these circumstances."

Weaver held strongly to the expectant nonoperative treatment in his series of cases, surgery being held as a last resort unless there were definite indication for intervention; decompression was only resorted to when spinal tapping and hypertonic solutions failed to reduce the intracranial pressure.

Pulse and blood pressure readings should be frequently recorded as indicators of intracranial tension. Lumbar puncture with manometer readings is the most accurate method by which this may be estimated, and is also a valuable therapeutic measure toward its relief by drainage of the fluid.

In contrasting Weaver's figures with those of Rand and Nielsen, who had a higher operative mortality, because they decompressed in desperate risks, Frazier concludes: "This is the lesson to be learned. A certain percentage of patients thus injured will die no matter what is done. Immediate surgery simply increase the operative mortality without lowering the ultimate mortality. Careful observation, lumbar puncture, hypertonic solutions and the use of decompression and drainage only on very definite indications, and with a proper conception of what these indications are, comprise the essentials in the management of cranial trauma."

As to the relative value of the hypertonic solutions in reducing intracranial pressure, whether it be sodium chloride, sodium sulphate, magnesium sulphate, Ringer's solution or glucose—this is best summarized in the paper of Max M. Peet, of Ann Arbor, Mich. (*Jnl. A. M. A.* June 27th, 1925). His conclusions are as follows:

"The slow reduction of increased intracranial pressure in the absence of shock, hemorrhage, vomiting or dehydration is satisfactorily accomplished by the oral or rectal administration of magnesium sulphate.

The rapid reduction of intracranial tension, in acute intracranial traumas associated with shock, is best accomplished by the intravenous administration of hypertonic Ringer's solution. Glucose may be given later to maintain the lowered intracranial pressure.

Hypertonic glucose solution (50%) administered intravenously is indicated when acute intracranial pressure is associated with shock or hemorrhage, and in less acute cases when complicated by dehydration, nausea and vomiting.

Glucose has the following advantages over any of the salt solutions: Prolonged action, no terminal rise in pressure, nontoxicity, nondehydration, increased blood volume in shock, and the control of acidosis."

Dr. Isidore Cohn (New Orleans): It is hardly worthwhile to discuss this paper after Dr. Parham's full discussion and Dr. Landry's opening. There are just a few things, however, that I believe are worthwhile summarizing. First is that we all realize and we are indebted to some of our

leaders for the fact that more attention is now paid to the question of the increased intracranial tension rather than the fracture of the skull. A few years ago we all remember that when a patient had a head injury he was rushed into the operating room and a trephine done. At the present time evidence proves that fewer patients die and fewer patients are operated on. Take for instance statistics at Harlem Hospital from 1914 to 1917, eighteen per cent were operated; from 1916 to 1924, nine per cent were operated; 130 cases recovered without operation.

It must be remembered in this type of cases death results from shock in the first forty-eight hours in over sixty per cent of the cases; that medullary compression is the cause of death in another twenty per cent of the cases. Therefore, if the patient is going to die, don't help him on his way by surgical interference which increases, if possible, his shock.

The consensus of opinion has come to be that operation should be deferred during the first twenty-four hours, during that period the patient's constitution should be noted. Don't wait for twenty-four hours to do a spinal tapping and don't wait twenty-four hours to have fundus examined, but don't expect the eye grounds to show you a great deal in the early stages because they may not.

One of the indications for operation is evidence of an extradural hemorrhage, primary loss of consciousness, a period of lucidity followed by unconsciousness. Evidence of extradural hemorrhage indicate immediate operation.

A point not sufficiently stressed is the importance of the widely dilated and fixed pupil. If that does not go down in a short while the patient is probably going to die, but if it begins to recede in size, it is a fairly good omen.

Progressive increased intracranial tension, is indicated by a progressive slowing of the pulse, progressive rise in blood pressure and rise in spinal manometric reading.

In simple linear fractures increased tension may be relieved by magnesium sulphate by mouth and by rectum and by repeated spinal tappings.

Spinal fluid reading is considered by some of more value than the ophthalmologist's report. Spinal tapping when properly done for the relief of pressure is not dangerous.

Subtemporal decompression as a routine measure is a failure except in depressed fractures.

Decompression operations are indicated in depressed fractures and when an extradural hemorrhage exists.

Simple fractures with increased intracranial tension may be treated by ice bag, rest, magnesium sulphate by mouth and by rectum and repeated spinal tapings.

One word here with regard to magnesium sulphate and I am done. In the event you have evidence of a toxic reaction from magnesium sulphate relief may be obtained by giving calcium chloride intravenously.

Dr. Rudolph Matas (New Orleans): The three speakers today, Dr. Parham, Dr. Landry and Dr. Cohn, have covered the territory. It is perfectly useless for us to devote more time except to say one thing more which is always agreeable for any one who contributes to the discussion, and that is to praise the speakers. They are deserving, I think, of a great deal of praise for bringing up such an important question in the first place, as Dr. Parham has done.

When I think of the contrast at this time of our therapeutics of fracture in comparison to what it was even five years ago, really I think the new change in respect to mortality alone of these is a blessing. It is a great thing. Dr. Parham has brought this here today so that the mass of practitioners who are not exactly familiar with these cases can profit because it has a lesson of the greatest benefit to the general practitioner.

In the past when one had a fracture to deal with the first thing was to trephine, to do a craniectomy. Now every one can treat a fracture and do it well without resort to the knife. Still, let us not go too far, let the pendulum swing too far. I think mention has been made of hemorrhages. It is perfectly absurd to think that anything like a dehydration with magnesium or glucose is going to accomplish anything but temporary benefit, only to give time to prepare for the operation and keep the patient alive until he can get to it. That is the point. When is that time? I think in every case we must accentuate the fact that the patient must be relieved of shock. He must be helped. I mean by that that he must be brought to an operable state. Then after that, that very glucose solution, that very infusion is going to bring him back.

I think that our own experience, of course, has been partial to glucose. We have used a great deal of it and in all our experiences in dealing with cerebral tumors and preparing them for operation we have found that glucose is very acceptable. In these cases I don't know that it makes any difference but we know that glucose is a great help, first in preventing asthenic states ordinarily associated with malnutrition. To my mind it stimulates the heart a great deal better.

The aseptic solution of salt I think is the best stimulant and there is no danger in using solutions up to a thirty per cent. I haven't gone as far as fifty. It seems to me it would accomplish everything put right into the circulation. We have had occasion to see that and by manometer readings have found that ten per cent would do right well. We find a decided diminution but thirty per cent, the basis of the old solution, was supposed to be the limit for obtaining diuretic effects bringing on a state of temporary diuresis. However, I am not prepared to say that any extraordinary benefit would be acquired by the use of fifty per cent. I believe that we can do everything we want with the thirty. I think for anything more than that I would be inclined to give insulin.

At any rate, the point is when the patient has been brought to this condition to determine what is going on. If it is a hemorrhage, is it increasing? The tapping becomes necessary. There is no reason why it should not be done. I have never seen hemorrhagic cases in any danger from tapping. It has been said it is dangerous but that is only because it is dangerous in certain cerebral tumors which are liable to displacement of the medulla or cerebellum. The medulla can be drawn into the foramina in tumors when the supporting pressure is removed but not at all in fractures. It can only do good.

The first thing it does to help diagnosis is in the sense that we can see what is going on. If there is a progressive hemorrhage the fluid will show it. If the hemorrhage is checking it will show it by the type and color without the necessity of counting the cells. So that the tapping really is most beneficial in keeping us informed. However, in the majority of cases that information comes to us from the actual improvement in the patient's condition without the necessity of tapping, but if he is not improving then we must not wait too long but we should proceed to find out where the mechanical obstacle is. The compression agent, the clot if there is one, can be removed and should be removed if possible. The depression is decidedly important.

Here comes in the question of judgment. How far must we go on the conservative side, how far on the opposite side, and in between is where experience comes in. There is no exact way of telling. I presume that the general practitioner facing a case of that kind would say, "Well, the patient is not getting better; we better find out." And I think that probably would be the right thing.

Don't wait until he is extreme, until he is beginning to change respiration, until his medulla is paralyzed. There is the whole thing. If you are dealing with a very conservative man, a man

not dealing with surgery much, he is probably going to push his treatments more and repeat them until the moment is over. And if you get a surgeon who is doing this work all the time, is accustomed to it, he is very likely going to overstep to the other side and go and operate and the patient probably will get well without the necessity.

However, I do say that if the patient has been brought out of a state of shock, there can never be any very great risk in doing a subtemporal decompression. That is a benign operation comparatively. There is some risk but to do an extradural decompression I think certainly does no harm. Providing you have operated when the patient could stand simply the local anesthesia, where you don't need a general anesthetic, that is one of the great benefits of local anesthesia. You can do the work very satisfactorily, especially with these suddenly conscious patients, sometimes comatose and usually in profound stupor.

We have really a great question most opportunely brought up in a timely way and one that I think is going to be of enormous help in reducing the mortality. Still I think surgeons and medical men and practitioners must come together and gradually work out the question of the precise indications for intervention in these cases. I can only say, praise to the speakers; they have done a world of good. (Applause.)

Dr. C. P. Gray (Monroe): Mr. Chairman, it is with quite a good deal of hesitancy that I follow the previous speaker. It seems to me that we should let the sweetness stay where it is. I do, however, want to say this, that I most heartily agree with the expressions of Dr. Parham and the previous speakers, but if possible I want to say exactly the things which they have said except to say it in stronger terms.

For years and years we have looked upon skull fractures from the wrong viewpoint. The object of my paper which I would have read had time permitted was to try and bring before you the fallacy of that old term "skull fracture." We have always looked upon skull fracture as a condition where only the bone is involved and have forgotten that it is the damage to the underlying tissue which produces the symptoms and not the fracture of the skull. A fracture of the skull will no more kill a man than a fracture of the leg, and I think that the time has come when we should understand it that way.

If possible I would like to emphasize exactly what Dr. Parham brought before you, that is, that it is the damage to the brain tissue and the resulting symptoms from the injury which call for attention.

First in the line of treatment of these cases, I would emphasize the fact that other than a compound fracture of the skull or an injury to the head with an active hemorrhage, there is no immediate need to rush that patient to the hospital and perform a decompression operation. With those two exceptions there is no need for undue haste.

The next thing that I would impress upon you is that these patients in the past haven't had the study and care and the repeated examinations that they are entitled to. The average patient with a head injury, whether he has a fracture of the skull or not, if he is presenting symptoms of an intracranial tension, is entitled not only to one examination, not only to one neurological examination, but is entitled to several examinations. By all means he is entitled to this plan of treatment as outlined by Dr. Parham before any surgical measures should be resorted to. Bear in mind, I am saying, in all of these cases with the exception of a compound fracture of the skull and injury to the head with active bleeding.

There is one other point that I would like to impress. It is the same thing that the previous speakers have told you, and that is the spinal puncture. There are some that argue pro and con about the spinal puncture. In my opinion it has been conclusively proven by some of the varied writers and authorities and as Dr. Parham and Dr. Matas so nicely brought out, that a spinal puncture in these cases of head injuries or fractured skulls with increased intracranial tension can only do them good. I can't conceive of how it is going to do any harm.

Dr. Thos. E. Wright (Monroe): Possibly it may appear a little presumptuous for a medical man to discuss a surgical paper, but I don't think I can recall a single time when I have read a medical paper that Dr. Parham has not been kind enough to discuss it; so I think it is fair play that I should discuss his.

I wish it were possible that every man doing surgery in Louisiana could have been here and heard the paper and heard the discussion. It was such a sensible, clearcut, logical plea of conservatism in head injuries. Along with this plea for conservatism, Dr. Matas strikes a keynote when he says we must be conservatively conservative and not allow ourselves to lead the patient into deep water.

Unfortunately the young surgeon with great ambition and often a lack of good judgment fails to get a good perspective of some cases. He may fail to interpret intelligently the findings, and fail to classify the case into that particular division which would be proper or best relative to surgical

procedures. Often youth may rush in and develop a tragedy where a more conservative man and a man who gets a good perspective of the case, and watches it carefully and skillfully brings his patient around without operation.

As a medical man I would say frankly I enjoy hearing papers that call for more conservatism in surgery.

Dr. Parham (closing): Gentlemen, I appreciate very much the discussion that has taken place. I only want to say a few words in closing. I wish to say first, that I do not mean to indicate that spinal puncture should be done in every case. There are certain indications which are gathered from a careful observation of the case which would indicate that we want more information than we can get by simple observation methods of what is going on in that skull.

Further, I would like to say this, that some of the gentlemen like Sharp, who have announced the opinion that spinal puncture is dangerous, do not show it by their practice. For instance, Sharp in a series of 1600 spinal punctures which he has done reports only three deaths, all three of them done by students whose sole desire seemed to be to get the fluid out and not with the special indication of relieving the tension. Two of those cases were of tumors and the third case was internal hydrocephalus, so that his case against spinal puncture I do not think would stand.

I wanted to insist upon, first, the point that spinal puncture carefully done is safe. In the second place, diagnostically it will give us information which will enable us to say what further should be done. If that case is not a case requiring further spinal puncture as indicated by the tension then we do not go on with the spinal puncture.

Sharp says that you should not draw at one puncture more than 5 cc. of fluid. Another point I should like to call attention to is that when you get your needle in you don't necessarily have to relieve the spinal canal of fluid. You only do it where the indication is of tension. Sharp says you must not draw over 5 cc., but in a certain number of cases he has drawn more than that because he felt that the tension must be relieved at once.

In the last place, I would like to call attention to the subsidiary measures of intravenous injection. Cushing states from his own observation and his experiments that where the case has progressed to the point of Cheyne-Stokes respiration an intravenous injection may bring that patient around to consciousness again. I think we must

consider that a measure worth calling attention to. I would like to say finally this, that I believe where we have a number of means of treating a condition there is no reason why we should confine ourselves to one particular method. Some of the gentlemen like Jackson believe in spinal drainage, some like Frazier and Foley believe in dehydration, especially by introduction of these concentrated solutions which act by osmotic pressure, drawing fluid from the brain, but why should we not resort to these different measures in a particular case instead of confining our attention to one. I believe that we should take advantage of all the means at our disposal and get the best results that we can for the patient.

SOME OF THE MORE COMMON MENTAL DISEASES.*

WITH SUGGESTIONS AS TO TREATMENT AND
PREVENTION BY COUNTY
HEALTH UNITS.

W. E. CLARK, M. D.,
JACKSON, MISS.

Mental diseases are not separate and distinct disorders, confined to the brain alone. The mentally deranged person is in most instances a sick person all the way through. Some acute diseases are prone to become the exciting cause of mental derangement, especially in those of a psychopathic make-up, or trend. It is to the psychopathic, by heredity and environment, that we can profitably apply preventive measures and save to the state a citizen who otherwise would become a case for custodial care in a state hospital for the insane.

Acid conditions due to violent toxins, faulty action of organs, faulty elimination of by-products in the system, may and often do cause mental diseases. The ductless glands are unquestionably at fault in many mental disorders. Symptoms of disease, especially mental diseases, are the result of an imbalance between the endocrine and vegetative nervous systems. Maintain the equilibrium between these systems and we have no symptoms presented. Long be-

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fore and long after the Christian era, the majority of cases of insanity were not only not treated as diseased, but the unfortunate subjects were punished as possessed of the devil. It is only in later years that mental diseases are beginning to receive from the medical profession the close attention and study they deserve, with the result that much progress has been made.

In order that the care and treatment of mental diseases may be presented in a more lucid manner, we propose to discuss a few types of insanity as classified by Kraepelin and accepted generally by the profession. But before going into the types, we will first mention a few of the characteristic symptoms to which our attention is first called, as a rule, when coming in contact with a person suffering from mental disease: Delusions, hallucinations, illusions, disorientations, change of personality and conflict of emotions.

Delusions are errors of judgment, or false ideas from pathological sensory perceptions. Delusions may be depressive or exalting, and transitory or fixed. Hallucinations are perceptions without an object; these may be visceral, somatic, or of the special senses. Illusions are false interpretations of objects perceived. Disorientation means the inability to recognize and associate one's self with his surroundings, with time, and place. In cases of change of personality, one who was very precise, clean and neat, becomes negligent, loose in morals, thoughts and habits. By conflict of emotions is meant two opposed emotions co-existing in the same psychic system, both trying to manifest themselves at the same time.

The first group we will take up is the "Defective Developmental Class." Under this caption comes that great class of patients varying in degree from complete deprivation of all higher mental powers and inability of acquiring and retaining ordinary knowledge of an education, to those suffering from defective judgment as a result of

a diseased or defective brain, congenital or acquired, in or during its development.

The first is "Idiocy." By this we mean the lowest grade of weakmindedness seen from birth. The patient is deprived of nearly all, or all, of the higher mental powers and is unable to achieve even the simplest accomplishment. No matter how diligently he may be taught there is no improvement. The legal definition of an idiot is, "One without a mind." This class is easily recognized when seen in early life during the first three or four years. The principal early manifestations are continued, violent, unprovoked crying, no attempt to take nourishment, impossibility to fix or get the child's gaze, a blank mask-like expressionless face. As they grow older they are never able to attend to their bodily wants, never able to dress themselves. They require constant care and attention. They would perish for lack of food or freeze owing to their inability to dress. No treatment will help their minds. It is, therefore, only necessary to care for their physical bodies and look upon them as babies throughout life.

Next we will mention "Imbecility." By this we mean acquired idiocy. At the age when intelligence manifests itself, the imbecile mind does not continue to grow and becomes surly or noisy. He can say only a few words at the age when normal children have a full flow of language. The imbecile can only understand a restricted number of words for his age, although perhaps is able to pronounce or say many more. This class is recognized about the 2nd or 3rd year of life, or thereafter, always before puberty, by their inability in learning to speak, lateness in learning to walk, inability to learn, to understand, or repeat. They can be improved by proper teaching, care and supervision, but never at the pace of the normal, and never are able to take proper care of themselves or to assume their place in society. The legal definition of an imbecile is "An adult with the mind

of a child." It is in this type of cases that special care and work will be most useful. We are able to teach the imbecile (not low-grade) to do certain works of art or handicraft that will, while not making him self-supporting, keep him out of badness and under supervision, thereby preventing him from becoming a burden upon the community and a menace to society. Of course, he will need the bodily care that is necessary for all mental deficient.

By feeble-mindedness we mean those known as backward children; the savants, the delinquents, and the morally weak. Patients of this class are capable of much improvement by education, and if properly taken care of may become nearly normal; environment has much to do with the ultimate outcome. When properly treated they can take their places in society and become self-supporting. They are generally recognized about the age of puberty or just after; often have a high opinion of their ability; persist in their judgment; want to impose their ideas and, as a result of this, they often blunder in their understandings.

Constitutional Psychopathic Inferiority: To this class belongs that number of individuals whose mental faculties are more or less normal, but who show some small strain or mental twist, and lack the great forces that drive the normal person to success. Their determination, will-power and foresight are usually deficient and they are unable to carry responsibilities. Thorough training means much to this type of patients, for while not having a well-defined psychosis, they are unstable, changeable, and usually high-tempered; and it is a well known fact that some type of employment wherein the subject can see and appreciate the work being done, also realizing that the product will bring some remuneration, goes far toward keeping him in a state of contentment by establishing and maintaining a degree of mental equilibrium sufficiently strong to guarantee

stability to such an extent that he is no longer a menace nor a source of danger.

Manic Depressive Insanity: Under this caption comes that great class of cases characterized by fluctuation of effects, or emotions, varying in degree from profound depression to marked excitability. The sub-groups, or those coming under this caption, are the depressed, manic, circular recurrent, and stuporous. Under the depressive type we have those cases formerly known as melancholia, the predominant symptoms of which are marked mental depression, motor inactivity, sensory parathesia, anaesthesia, etc. The patient sits quietly and is blue, the world is going back on him, and he is doomed. He makes no effort at defense or protection, suffers with suicidal tendencies, anorexia and constipation, the predominating delusion, when a delusion is present, is self-accusation, or one of fear and apprehension. Hallucinations are sometimes present. Of course, there are various types. Regarding the care and treatment of this class of patients, I will state that they require extreme care and sympathy. At the beginning they should be placed in bed, thorough elimination procured, and this is quite a task in some instances, requiring frequent repetition of such drugs as are known to arouse all the emunctories; the prolonged warm and continuous bath is indicated. The diet should be carefully looked after, eating such things as will give "pep" and build red blood corpuscles. A system of slight over-feeding might be better. Never leave the selection of the quality nor quantity to the patient. Should you do this he will starve himself. When a suicidal tendency exists never leave the patient alone nor allow him to have anything in his possession with which he could harm himself. Engage him in pleasant conversation when possible, and never refer to the patient's depressed condition. Always talk of something pleasant. Otherwise, better not talk to him at all. Always agree with him, that

he is sick, but assure him that he will get well. When a patient begins to react, or take on new life, as it were, suggest outdoor exercise in the form of walking; later some kind of work that will interest him and keep his mind off of himself, writing letters, playing games, with his co-workers, speaking words of encouragement at all times.

Under the Manic Type, we have those cases formerly known as acute mania. The predominating symptom is psychomotor activity. The patient frequently is in a state of muscular, as well as mental, activity and excitability, paresthesia, hyperesthesia, garrulity, loquaciousness and exaltation. He is excited, moving constantly, on high tension, boisterous, noisy, suffers from insomnia, either has anorexia or constipation, or is gluttonous and fattens. In his opinion he is always able to accomplish any and everything. The delusions, when present, are of a grandiose character; the hallucinations, when present, are very elementary, transitory and unsystematized.

In the Circular Type of Manic Depressive Insanity, the condition is recognized by its cycles in which there are periods of mania alternating with periods of melancholy, each succeeding the other, separated by a short period of return to normal, or going from a state of depression to that of excitement, or vice versa. This class of patients should be handled with care, and much tact is required. You should study your patient to the extent that you are able to anticipate a large part of his desires, get him clear away from himself, interest him in something new and novel. In this type, some form of occupation, which might be called monotonous, with occasional periods of rest and recreation is called for, always seeing that a generous and well-prepared diet is given.

The Dementia Præcox Group will next be considered. This is a disease characterized by a splitting of personalities, while there are maintained, at one and the same time,

two distinct and mutually opposed trends of thought, with withdrawal from the reality, introverted thinking, and emotional dullness; it occurs usually at the age of adolescence and progresses to early dementia or retrogresses to a remission or recovery. Dementia præcox is divided into classes according to certain peculiar symptoms found in the different types. The hebephrenic type in which the predominating symptoms are progressive enfeeblement of the mind, gradually manifesting itself with insomnia, lethargy, malaise and inability to work. The patient becomes brooding, quiet and solitary in character, shows absolute indifference to surroundings and persons. The symptoms may resemble those of hysteria or neurasthenia. Patients retain their early memory, but lose the power of adding new memories, which is probably due to an inability to fix their attentions. Orientation is seldom disturbed, but the flow of ideas and of thought is slow. The patients neglect their persons and often the calls of nature. There is marked negativism and stereotypy. Delusions are generally paranoid in type. Hallucinations are usually auditory. There are frequent and sudden emotional explosions. This disease usually occurs in early life. A peculiar characteristic of this disease is that the patient assumes two distinct personalities, and from the resulting conflict often delusional expressions develop, which are absolutely illogical. No treatment has been found in this type of dementia that surpasses constant employment. Constant employment, exciting interest, re-establishing self-confidence if possible, keep the deteriorating mind from sinking or withering away, as it were. Here, tact, patience, and perseverance mean success with many cases.

In the Catatonic Type of Dementia Præcox the predominant symptoms are the catatonic stupor, and excitability. In the stuporous type, or stage, the negativism reaches the highest development, the patients become fixed in their attitude or

positions. Whatever the position assumed, they remain in it immobile, dumb, answering few if any questions, attend to no calls of nature. They respond to no stimuli. If they do speak or move, this is stereotyped in way, or manner. In case of catatonic excitement there is constant talkativeness, marked activity, during which the patient becomes very destructive, but, with no fixed motive in view. They also become very noisy or may even develop epileptoid convulsions. They are clumsy, awkward, dull, seclusive. Delusions are fleeting, and unsystematized; the hallucinations are few and transitory. The deterioration is slow and superficial, and nothing medical or surgical has as yet succeeded in aiding or relieving this type of patients.

There is a possibility, however, that eventually some continued form of employment may be found to help these patients whereby this screen, as it were, may be permanently removed from around the patient, and enable him to see himself as others see him.

In the Paranoid Type, the emotional indifference, the unresponsiveness to stimuli is not marked. The hallucinations are more fixed, and logical. The delusions are more coherent and connected, and are generally of a persecutory type and grandiose in character. In this type, the splitting of personality is striking.

It is a well known fact among authorities connected with hospitals for mental diseases, that a larger percent of mental troubles could have been prevented, had the person been located and treated along preventive lines before the mental condition became established.

Regarding the treatment and prevention of these various types mentioned, I would suggest that you first look well after the physical body, removing any aggravating, or activating causes that can be found, arouse all enuncerics, eliminate thoroughly, establish an equilibrium between the endocrine and vegetative nervous

systems; rest and regulate recreation. For these various types I can suggest nothing better than the establishment of an occupational therapy department in each grammar school in the state. Occupational therapy today is playing such an important part in the treatment of the insane and mental defectives, that it has become necessary to equip and educate more people in this line of work, in order that more institutions may provide this form of treatment for their inmates; and there is no better way nor method of treating the unsuspecting patient, and at the same time equip him for securing a livelihood and relieving the state of the burden, as well as relieving the institutions of a potential inmate. A department of this kind can be made self-sustaining, and at the same time will tide many little ones over, who are potential mental cases, and prevent them from becoming delinquents and a menace to society, and eventually a burden on the State.

In addition to this form of treatment, and, in fact, preparatory to establishing departments of this kind, I know of no more important aid than for each health unit to have a well-trained social service worker, who has psychiatric training and who could give mental tests and establish mental ages, preparatory to entering these departments. This social service worker would also be of wonderful help to the family physician in treating the older ones by means of suggestion, teaching them how to handle and care for these defective and psychopathic children.

Gesell said, in "The Pre-School Child," published in 1923, that, "Although mental or nervous disability constitutes one of the heaviest burdens of society, almost nothing has been done by the public schools in the way of preventive hygiene. At that time there were 249,000 mental patients actually in the institutions of the United States. At the same time there were quite as many on parole and under the direct supervision of institutional authorities. A

considerable proportion of all cases of mental and nervous diseases are conditioned, if not caused, by factors which operate in childhood and youth. There are no convenient or accurate methods of diagnosis, which will reveal these children, who are harboring a latent insanity or developing the basis for an insanity.

Careful observation and guidance of people with psychopathic tendencies has, on a small scale, been successfully inaugurated in some of the New York public schools. The first step in the development of constructive school measures lies in recognizing pupils who show serious defects in personality make-up, symptoms of emotional instability, emotional shallowness, symptoms of perversions, irritability, morbid fears, psychasthenia, social mal-adjustments, infantile tendencies, etc. The psychopathic child is father to the psychopathic man. Once the significance of this type of child is grasped, ways and means for ameliorating his condition, and forestalling its latter-day consequences can be found. The psychiatric social worker would be a counter-part of the public health nurse, and work in close contact with her, but she would revolve in a different circle of problems. Instead of patients with discharging ears and deteriorating molars, her patients would be the child with night terrors, the nail biter, the over-tearful child, the over-silent child, pervert, the infantile child, the unstable choreic. Handling of these cases would embrace a combination of medical and educational treatment, which alone is adequate to reconstruct them mentally. These provisions, of course, imply neurological and psychiatric specialists, educational psychologists, together with trained psychiatric social service workers. From a financial viewpoint these suggestions may seem extravagant; but only by such radical, and sincere methods, can we ever hope to reduce the massive burden of adult insanity. Expensive in the beginning, a preventive juvenile system of sanitation, administered through the public

schools may, after all, prove to be a form of socialized thrift.

Each unit, by all means, should have a social service worker of this type, and an occupational therapy center, if it were found impossible to have one in each school. Also, in the way of prevention, I would say keep the physical body well, remove sources of toxins, have your social service worker to advise with the families and take advantage of each Parent-Teachers' Association meeting, to stress the necessity of co-operation of parents in handling delinquents, and subnormals, and preventing the development of a permanent, or perhaps incurable psychosis. The family physician, county health officer, the county health nurse, social service worker, and occupational therapy instructor could do wonders in the way of prevention of mental diseases.

DISCUSSION.

Dr. H. H. Ramsay (Ellisville): I want to congratulate Dr. Clark on this splendid presentation of the subject. Dr. Clark has covered rather thoroughly the entire field of mental defectives and mental diseases, therefore any extensive discussion of the paper is impossible. I shall only attempt briefly to discuss some of the points which I think are somewhat important.

As has been brought out yesterday before this Association, the problem of mental disease and mental defectives presents itself to us as one of the most outstanding problems of taxation, an economic problem to the taxpayers, because there is no problem today which is more important to the taxpayers of the country. Millions of dollars are being expended for the institutional and custodial care of mental defectives and the mentally diseased, while there is practically no preventive work being done. These vast sums which are being taken out of the treasury of this State, as well as others, are taking care of the end results of mental disease. Dr. Adams illustrated this splendidly yesterday in a conversation with him when he said he had asked a little boy what he would do if he were in a basement where water was pouring in at the rate of 25 gallons a minute, and he could only bail out 5 gallons a minute—what would he do to keep from drowning? And the boy replied, "I would turn off the faucet." And that is what we must do with mental defectives.

Dr. Clark outlines the three chief grades of mental defectives—the low-grade idiot, the born idiot, the individual who is born without intelligence and for whom there is nothing to be done other than custodial care. The next grade is the imbecile for whom there is some developmental training and some of whom can learn useful occupations and be of some service. The moron, who thinks he is smarter than anybody, the type of fellow who today with his disturbed emotions, his poor emotional connection with his intelligence, is disturbing society, the man who is a failure, and in a majority of cases is looting banks, stealing automobiles, and upsetting society generally.

In this connection I want to say that the public knows practically nothing about this matter of mental deficiency. When they see anyone who is a raving maniac and tearing his clothes they know that man is crazy, but the ordinary mental defective, the psychotic individual, they do not understand, and so from time immemorial we have put these low-grade idiots, these people who are a care in their homes and worthless as far as occupation is concerned, into insane asylums, and have failed to recognize the higher grades that go into society and fail. If they happen to have stable emotions, they succeed. Practically everyone of you know of some imbecile who has adjusted himself to conditions and is doing no harm, because he has good emotions; but another fellow whose intelligence is a little higher but whose emotions are bad is stealing automobiles, starting fires, and doing all sorts of crime in the community. This is the tragedy—that many of the mental defectives the public, and I am sorry to say the medical profession in the past, have failed to recognize. These are the types we need to recognize and endeavor to get into our institutions. It is not necessary to put all the feeble-minded into institutions, provided they are in good homes and are well adjusted. But the feeble-minded child who is in a bad environment, who has a bad emotional make-up, will become a problem to the State, and he should be in an institution where he will be properly supervised and trained and not become a problem for society.

Dr. William L. Little (Wesson): A few years ago this state made a great fight for the prevention of tuberculosis. The people have been taught how to live so as to prevent it. Now we need to make a fight on some types of mental weakness. We have had a good paper and fair discussion, but to my mind have missed one of the most important points. We are teaching prophylaxis, but we have failed to discuss the prevention of feeble-mindedness. I believe we should

make an effort to prevent the increasing birth rate of defective babies. Every child has a right to be born perfect and if it is not a certain percentage of the blame rests upon our physicians and upon the Legislature. The State Board of Health has a right to institute quarantine, and vaccinate against smallpox, why not go to our institutions for the criminals and the feeble-minded and make a study of each occupant or patient with a view of preventing a recurrence by heredity. We must render them sterile, and we should have laws to prevent the marriages of these unfortunates until propagation is impossible. As a practitioner you see the same things I see. You know certain sections in your county where you have several weak-minded people. They intermarry and bring up a lot more to be cared for by the State of Mississippi. We are being called upon to provide larger institutions for their care. My idea is to prevent such a state of affairs. Dr. Ramsay has a great institution and is doing a wonderful work. We ought to be able to go over there and select certain ones, and when they are returned home they will not have the power to beget children like themselves. If we will make a fight along these lines, go to our Legislature and have them make laws that will prevent, then we will be doing work worth while.

Dr. W. H. Frizzell (Brookhaven): I want to congratulate the Association on this paper of Dr. Clark. He is a classmate of mine and a dear friend. He has had a great deal of experience along this line. As he says, it is an economic question we must consider, and until the people of the State of Mississippi are educated to this we must pay for our ignorance and stupidity inasmuch as we cannot build institutions big enough to hold them from now on. But this thing must be carried back to the people, and largely by the physicians.

It seems that eugenics laws are not popular. Dorothy Dix makes Samantha say, "Eugenics, what's dem?" Oh, dat's easy; all you has to do is to choose your parents." Some of us have waited too long to choose our parents, for some of us are not far above morons.

It is largely a question of education, and we will have to bear the expense of keeping them confined until the people are educated up to the idea of prevention.

Dr. Mabel C. Kemmerer (Jackson): I wish to speak briefly of the relation of modern psychology to the problems that confront the social workers and physicians. We are social beings—we are living among those of our kind, we are in social groups, and we live with people who are not as well adjusted socially as they might be. That

is more or less true of everyone of us. Some are better adjusted than others. We do not have to live with the custodial cases, and so responsibility simmers down to an educational problem, a problem of training for the best possible adjustment to the world in which we live.

I emphasize only one aspect of the problem—that if the whole thing is basically an educational problem, then we must begin early, with the child. It is now recognized that the first two years of the child's life are the most essential in determining the child's future mental health; if you please—to a greater extent than his physical health. I will speak of one aspect of mental hygiene in childhood, and that is the pernicious effect of fear in determining future maladjustments. The work of Watson has proved beyond question that the child is born with but two fears, and these are very simple—fear of sudden removal of support, and fear of loud sounds; that all other fears are acquired, and are in the nature of conditioned responses, or reactions to substitute stimuli.

The basic facts have been worked out by Pavlov, a Russian, who has been working twenty years on conditioned responses. His work has given the most promising lead in mental hygiene today—the fact that so many of our responses are of the conditioned type. There is no reflex muscular or glandular that cannot be conditioned. The response may be simple or complex. That throws a light upon many obscure physical and mental reactions. I call this to your attention as medical men because there is no more promising field for study than these conditioned responses.

W. E. Clark (closing): I wish to thank you for the free discussion of my paper. We find that this, the most important subject, the most important field before us today in Mississippi, as the discussion has brought out, is largely a process of education. Regarding the sterilization of these patients: As a matter of fact, we have no law legalizing sterilization in Mississippi. I can not see, though, where it would materially help, except to stop the propagation of these individuals.

Sometimes we find cases where feeble-minded and imbecile children come from apparently healthy, normal parents; therefore, I do not believe that sterilization would eliminate it altogether. It has been said that we should be careful who our ancestors are. We do know that the child of today is the grandparent of tomorrow, and the best that we can do is to try to educate and train the child of today.

SOME OBSERVATIONS ON THE IMMEDIATE PROGNOSIS OF MAJOR OPERATIONS.*

OCTAVE CHARLES CASSEGRAIN, M. D.,
*Department of Surgery, School of Medicine,
Tulane University,*
NEW ORLEANS.

The importance of making the right immediate prognosis before a major operation is well recognized, but the ability to do so correctly is at times almost impossible. That this importance is not exaggerated is borne out by the fact that the surgeon always consciously or unconsciously is considering the outcome of his case, when he is deliberating on his choice of anesthetic, his selection of technique, his method of procedure; while to the patient this importance is expressed by the oft-repeated question, so frequently asked: "Doctor, is this operation dangerous?" To lay down some facts that help us in making a correct immediate prognosis, *i. e.*, that will help us to foretell fairly accurately whether a patient will recover from the operation, is the purpose of this paper.

The great majority of patients that succumb to an operation, seldom die of the disease that necessitated the operation, but of disease in other organs not infrequently far remote. The expression "The operation was satisfactory, not difficult to perform, but this or that complication set in, etc., etc.," is too often heard; and, in many instances if the patient had been properly studied before operation and an exact knowledge of his physical condition ascertained, the complication might have been anticipated and consequently prevented. Of course, we all agree that medicine is not an exact science, and that no one can prognosticate unerringly at all times. That sepsis, thrombosis and embolism, and pneumonia can and do occur without the least warning, and that at the present time, we

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

have no way of foretelling in which patient any of these above conditions may occur.

We can however with our present knowledge of asepsis, with careful technique and painstaking attention to details reduce infection to a minimum, and with gentleness and careful handling of tissues lessen the probability of embolism. Pneumonia, of course, is more difficult to avoid; and while we all agree that the presence of an active pre-operative lesion in the lungs, be it gripe or bronchitis, or any other, renders the prognosis less good, we also know that pneumonia may occur, and does occur, post-operatively in lungs which had been found normal on examination before operation.

Nor can we say that choosing the right anesthetic will relieve us of this post-operative worry, for while we recognize that the majority of pneumoniae follow the giving of a general anesthetic, we must not overlook the fact that not infrequently pneumonia occurs in patients operated under local anesthesia, the infection being carried to the lungs by way of the blood stream and of the lymphatics. This dread of possible pneumonia, however, should not deter us from giving an immediate favorable prognosis, provided the patient's general condition is good, for we all know that it is the patient who is below par who most easily fails to rally from this pulmonary congestion.

This then, brings us at once to a consideration of what constitutes good physical condition. An individual may be said to be in good physical condition for an operation when his heart, lungs, kidneys and blood are normal or vary but slightly from the normal. I am sure all of us will subscribe to this statement. But I wish to state here most emphatically that the average pre-operative examination made to determine this physical condition is most inadequate and frequently of very little value; and that to determine the normalcy of these organs, or their degree of variation from the normal, other tests, more delicate

and accurate must be done, which give us greater knowledge of existing conditions and which experience has proven to be of immense value.

It is not the purpose of this paper to theorize as to the causes which bring about pathological changes in these organs, nor discuss the therapeutic means to correct these changes, but simply to note the changes, interpret them correctly and so be guided in our prognosis and our method of procedure.

THE HEART.

As Briant so well puts it, "Many individuals supposed to be in fair or good health may in reality, be on the verge of extreme cardiac incompetency, for it must be well remembered that the changes which take place in the myocardium, do so insidiously and that, from a muscle capable of carrying its normal load and the excesses thrust upon it by the sudden incidents arising in the course of the individual's life, it changes to a more or less abnormal state, varying from the slightest change, causing no inconvenience, and entailing practically no risk whatever the stress thrust upon it, to the extreme alteration that accounts for sudden death under most usual circumstances of living."

A vital tissue, this myocardium, and one about which we cannot know too much, and yet is it not a deplorable fact that the usual routine examination of the heart before operation leaves out the one thing which gives us the most information about the myocardium? I refer to the estimation of the pulse pressure. The size of the heart and its rhythm is noted, the rate counted, murmurs listened for. But the pulse pressure is ignored. And what does it matter if a patient have a leaky valve if that leak is fully compensated? Such patient may be and often is a very good surgical risk. But what if he have advanced myocardial degeneration? Such degeneration may and at times does exist without any discernible valvular lesion, and the extent of such de-

generation must guide us in giving our prognosis. It is most easily arrived at by an estimation of the pulse pressure.

We all believe that it is dangerous to perform a major operation on a patient with a systolic pressure below 100. I believe that it is equally as dangerous, if not more so to operate on a patient with a pulse pressure of 80 or over, for if we consider a pressure of 40 mm. of mercury the normal pulse pressure of an adult, and that it fluctuates within narrow limits according to the age of the patient, we must conclude and experience has shown this to be true, that a pulse pressure of 80 indicates that the myocardium has lost a great deal of its reserve strength. The prognosis varies therefore in direct ratio to the rise of the pulse pressure—the greater the rise the more the muscle is diseased, with pressures of 80 or over exerting a most unfavorable prognosis. And while it is true that at the present time no measure has been established by which we may determine what extra strain the heart will stand, still the knowledge we have beforehand of such existing degeneration must in a large measure influence our prognosis, our operative procedure, and our post-operative treatment.

THE KIDNEYS.

Probably no organ in the body is more abused than the kidneys. What with the infectious diseases of childhood and the tremendous dietary indiscretions of later life it is truly to be wondered at, that in general, the kidneys stand up as well as they do. But here again as with the heart, we must bear in mind that degenerative changes in the kidneys often take place insidiously, and that kidneys which appear to be normal following a routine chemical and microscopical urine examination, may in reality be performing but a very small percentage of their normal function. These facts of course are not new, but unfortunately they are too often forgotten. How frequently does one hear at a Medical Staff

meeting, when the deaths of the preceding month are reviewed, an experience something like this: "Patient was operated on, reacted well from the operation, no trouble was anticipated, then suddenly the kidneys failed and the cause of death attributed to an acute nephritis." Do we not all know of many such cases, and in some cases following even such a simple operation as appendectomy? A routine examination of the urine in the great majority of these kidney deaths that have come under my observation failed to reveal any pathology before operation. The urine was chemically and microscopically negative, hence the common expression, "The kidneys suddenly failed." But can we in the light of present knowledge and with no further examination, say that these kidneys were normal, or is it not more sensible, I may well say more correct to assume that although chemically and microscopically the urine was negative, still in the absence of proof to the contrary, these kidneys were not normal and their function impaired? Such must undoubtedly be the case as we have had many occasions to observe in the past three years, and this is why a blood chemical examination for nitrogen retention products should be made before operating on any major case. This rule we have followed with great satisfaction in all of our major work since 1923.

As William Mayo so well describes it, "The function of the kidney may be defined as the filtration of non-colloid constituents of the blood plasma through the capsule and the reabsorption of threshold bodies in solution through the tubule cells. The kidney is therefore chiefly a filter whose function it is to eliminate from the blood certain metabolites such as urea-chlorides and creatinin." The estimation of these substances in the blood affords us the most reliable information as to the true amount of renal function. It has been estimated that a 100 cc. of blood contain normally:

- 35 mg. of Total Non-Protein Nitrogen.
- 12 to 15 mg. of Urea Nitrogen.
- 1 to 3 mg. of Uric Acid.
- 1 to 2½ mg. of Creatinin.

From this normal wide variation may occur, but as a means of arriving at some definite idea of the degree of function we may expect from the kidneys following a major operation, we estimate that when the above normal figures have been doubled we are dealing with a poorly functioning kidney, and we have reached the conclusion that when the urea nitrogen rises to 75 the operation carries a decided risk, the higher it rises above 75 the more serious is the risk. Such patients may with proper care and careful preparation be tided over their operation, but it is well for the surgeon to realize that they are bad surgical risks and be guided accordingly in his prognosis.

The estimation of the creatinin is probably just as important as that of urea. As you know creatinin is a normal constituent of the blood and of the urine and is excreted from the body by the way of the kidneys. It is partly derived from the preformed creatinin in the meats we eat and partly from the muscular metabolism of the body. Its estimation as a prognostic index cannot be overestimated.

As we have progressed with this work we have come to feel that a rise of creatinin above 3 is of bad prognostic significance, and while some authorities state that patients can live with a creatinin retention of 10, I myself have never seen a patient survive a major operation when the creatinin reading was 5 or above before operation. As I have stated before a poorly functioning kidney may excrete a urine which will be found negative when examined by the usual methods. I could cite many instances that occurred in our series of over two hundred cases but I think this one example which shows the most tremendous discrepancy of any of the cases which came under my observation will suffice:

W. T., white, male, age 37, with a urine chemically and microscopically negative, when exam-

ined for Nitrogen retention products gave the following results:

T. N. P. N.	200
Urea N.	125
Creatinin	6

Such a discrepancy is unbelievable, were it not for the fact that the blood chemistry examination was done by conscientious and able laboratory workers; and the urine examined by one of the most painstaking and intelligent internes it has ever been our good fortune to have associated with us, and who, conscious of this discrepancy double checked all the figures.

Truly, gentlemen, we cannot say that a patient's kidneys are normal simply because we receive a negative urine report, and before submitting to a major operation a patient has the right to this added knowledge which allows both he and his surgeon to estimate much more accurately his chances for immediate recovery from the operation.

This routine examination of the blood serves another very important purpose. Not infrequently following upper abdominal operations, especially those on the gall-bladder, patients fail to rally, become desperately sick, develop a rapid pulse, a high temperature and die. Classified according to blood chemistry these patients fall into two separate groups, one known as the acidosis group, the other as the alkalosis group. Now the clinical manifestations of these two groups are quite clean cut, but unfortunately in many instances these toxic conditions cannot be differentiated from each other until a blood chemical examination sets us right. In the first group, the acidosis group, we have a lowering of the blood sugar, and a lowering of the CO₂ combining power. While in the alkaline group, the CO₂ combining power in the blood is high and the chlorides are greatly reduced.

Now if we consider that 100 cc. of blood contain normally from 80 to 120 mg. of sugar and from 560 to 650 mg. of chlorides;

and that the CO_2 volume percent is normally from 50 to 60; is it not logical to include these various quantitative tests in our examination of the blood, especially for our more serious cases, and to conclude that if in a given case these figures differ materially from the normal, we are dealing with a patient at least predisposed to develop one of these two dreadful post-operative complications, and one who following the shock incident on a major operation, with an organism already below par, will fail to re-establish his metabolic balance?

For whether acidosis be of diabetic origin, or the result of insufficient carbohydrate intake "starvation," or as Ross, Davis, Langfelt and many other investigators believe, the result of diminished adrenalin concentration in the blood, which in turn causes a diminished glycogenic function of the liver, or a diminished glycogenic function the direct result of reflex operative shock; it is most reasonable to suppose that a lowered blood sugar and lowered CO_2 volume percent before operation means a patient predisposed to develop acidosis and that it is our duty to raise that blood sugar to normal before proceeding with operation. I believe that in several cases I have been able to prevent post-operative acidosis by following this rule; in one case delaying the operation two days to raise the blood sugar back to normal. The same will undoubtedly hold true for alkalosis which is fortunately rarer, but much more difficult to control.

In conclusion we may say therefore:

I. That the pre-operative examination of a patient to determine his physical condition before operation is often inadequate.

II. That patients who fail to rally from an operation do not as a rule succumb from the disease that necessitated the operation, but from disease in other organs.

III. That the vital organs of the body are the lungs, kidneys, heart and blood.

IV. That it is safe to assume that if these four organs are normal, the patient

will survive his operation in the vast percentage of cases, and that the immediate prognosis depends directly on the degree of functional variation of these organs from normal. The nearer the normal the better the prognosis, the farther from the normal the more unfavorable the prognosis.

V. That all patients who do not come under the classification of emergency cases, should have a blood chemical examination done, and the more serious their operation the more necessary is this examination.

I wish to take this opportunity of thanking Dr. Herman Gessner, our chief of staff, for the encouragement he gave during the time I was gathering material for this paper and for the unlimited opportunities of selecting cases from his ward at Charity Hospital.

DISCUSSION.

Dr. H. B. Gessner (New Orleans): I think Dr. Cassegrain's paper is very timely. We have all had the experience of doing effective operations on patients and seeing them die. We have seen patients dying after operation from conditions that might have permitted them to live for months and perhaps years. As you know, sometimes there are very important family and economic reasons for prolonging life for even a few months. I think it is a matter of great importance to determine the exact status of patients.

I have been much impressed with the care taken at the Mayo clinic. I don't mean to say that other operators don't do it, but the method there of labeling the case as Risk No. 1, 2, 3 or 4, has impressed me a great deal. I think there are many factors we haven't learned to estimate yet. Dr. Cassegrain spoke about the heart, lungs, kidneys and blood. Sometimes patients die and we can't blame the death on anything wrong in any specific organ. I believe he has opened up a subject that is a very large one. I think we have just begun to explore this line; we ought all to bear this in mind and try in our work in the future to get as much of a pre-operative estimate of a patient's condition as we can.

Dr. Hirsch (Baton Rouge): There is one thing that has impressed me in the study of the blood chemistry in relation to operative risks and that is, it is not always the exact reading of a nitrogen retention product but when we have a patient that

is a bad risk for that reason, if we make repeated examinations of his blood chemistry when the patient is under proper treatment to put him in a better condition for operative work, sometimes the high readings drop but do not drop to a normal level. I have found that when they drop to a certain point and stay there what we call a stabilization of the patient occurs and even though the nitrogen retention in the blood stream is high the patient may still be a good risk for major surgical procedure.

Dr. Cassegrain (in closing): Mr. Chairman, I have nothing further to add except to thank the gentlemen who discussed the paper.

ESSENTIAL ARTERIAL HYPERTENSION.*

JOHN B. HOWELL, M. D.,
CANTON, MISS.

There is no problem of internal medicine that is more important of solution than the cause and treatment of hypertension.

From a preventive point of view, the recognition of the condition in its incipency is essential, and in presenting the subject it is with the hope that it will elicit a free discussion to the end that some good may come of it.

The physiological factors that maintain and govern the arterial pressure are the ventricular contraction, the elasticity of the arteries and the resistance in the arterial field.

The role played by the arteries in maintaining circulation is great, and as it is stated by Howell, "almost as much blood is propelled forward as during ventricular contraction." Therefore, in disease, anything that may alter these factors will increase the pressure. In nervous individuals and during examinations the pressure may be raised on account of the excessive

output from the heart; this is also true in aortic regurgitation. However, the permanent cases of hypertension are usually due to changes in the arteries and to increased resistance in the arterial field.

The question first arises, what is hypertension? The old statement that the normal systolic pressure is 100 plus the age of the individual will give much too high a reading. Most clinicians accept a systolic pressure of 120 at 20 years of age and with the increase in years a progressive rise.

Faught adds .5 mm. for each subsequent year. However, Fisher's rates based upon 50,000 insurance examinations allows an increase of .34 mm., and no doubt this is more nearly correct, which will give a pressure at age 40 to 44 of 128 mm.

Fisher's table:

Age period	Total cases	Average
15-19.....	880.....	120
20-24.....	3,920.....	122
25-29.....	5,892.....	123
30-34.....	6,343.....	124
35-39.....	7,146.....	126
40-44.....	13,849.....	128
45-49.....	9,537.....	130
50-54.....	5,294.....	132
55-59.....	2,379.....	134
60-64.....	680.....	135
65 and over.....	201.....	136

Hypertension should be said to exist, according to Fisher, "when a persistent systolic blood pressure of about 12 mm. above the average for the age would seem to indicate the limit of normal excess variation in man."

Vaquez states: "Hypertension may be said to exist when the pressure exceeds 160 mm. in the male and 150 mm. in the female. The diastolic pressure does not go up by a fixed ratio with the systolic, nor is there a steady increase with years. The table computed by Janeway may be considered as correct although slightly high.

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

Normal diastolic pressure in 128 cases (Janeway) :

Age period	Average
10-13	80
20-29	85
30-39	85
40-49	85
50-59	90
60-69	90

The hypertension cases may be classified as renal and non-renal.

To the non-renal belong the vascular, idiopathic or essential hypertension termed by Sir Clifford Allbutt hyperpiesis, which after all is the Greek term for high blood pressure. In these conditions the hypertension antedates any renal changes.

The renal types are preceded by a nephritis and are the effect of changes in the kidney. In this paper it is with the former that I wish to deal.

Essential hypertension in recent years is considered a clinical entity and not as formerly a pre-albuminuric stage of nephritis or "latent arteriosclerosis" or as thought by Hachard a "pre-sclerotic stage of sclerosis."

The cause of essential hypertension, at present, is not known. However, a number of causes may enter into its production. It is a disease of middle life, most frequent between the ages of 40 to 50. According to Janeway it is more frequently found in men than women and with the great proportion of 75% in men. However, Christian does not share this belief, having found it about equally divided.

Infections, focal and general, have been credited as a cause. Christian finds "that the evidence of a time or causal relation to infection is slight." Thayer, however, found in a series patients who had had typhoid fever the pressure was greater than in a control series. Contrary to what might be expected syphilis can not be considered to be a factor.

Endocrine imbalance evidently has some influence; especially is this so at the meno-

pause, with a decreased activity of the ovary or from over activity of the thyroid. However, while hypertension accompanies hyperthyroidism, yet the high basal metabolic rate does not accompany hypertension.

Heredity certainly is an important factor. How often have we seen members of the same family in the 4th and 5th decade of life all succumb to cerebral hemorrhage or like diseases. O'Hare among 300 cases of essential hypertension found a family history of apoplexy, heart disease, nephritis, arterio-sclerosis or diabetes in 68 per cent or almost twice as many as in a control series of similar age. Osler said what might be called physiological arteric sclerosis depended "in the first place upon the quality of the arterial tissue 'vital rubber' which the individual has inherited and second to the wear and tear to which he has subjected it."

The part played by alcoholic beverages has been defended and condemned and we look for statements from a country where it is more plentiful than here. Lian noted arterial hypertension in one-fourth of the French soldiers between age 40 and 45 who had been constant drinkers of large quantities of wine while only one soldier in sixteen who were moderate drinkers had hypertension.

Certain metabolic disease conditions as obesity and gout accompany hypertension and may be considered to have a common cause. Overeating, meat eating, high living, are causal factors in these diseases as well as in hypertension.

Mohler found that forty-five to forty-six patients who had high blood pressure and diabetes were obese and concluded that "obesity frequently favors the development of sclerotic changes in the body, which are capable of producing an increase in the blood pressure and a diminished ability of the body cell to utilize carbohydrates.

The cause of essential hypertension may be considered an intoxication, which intoxi-

cation may be very manifest as in the acute hypertension of eclampsia or acute lead poisoning. They are evidently in the nature of pressor substance in the blood, acting to produce a constriction of the vessels and an acute nephritis which usually with the elimination of the cause, clears up.

In chronic hypertension the pressor substances act for a longer period and probably in smaller quantities. There is good proof that these are the split products of protein metabolism. With this assumption, Majors and others have identified methyl guanidin a normal constituent of the urine experimentally to increase the blood pressure of animals when injected into them. He also found that in primary hypertension and in those of nephritic origin that there is a deficient excretion of this substance.

In a case of chronic nephritis, with a high output of methyl guanidin, the pressure was normal. While this evidence is not conclusive it is certainly strongly presumptive. The wear and tear of a strenuous life is certainly a strong casual factor.

PATHOLOGY.

During the early stages there is a functional vaso-constriction particularly of the smaller vessels. With the continuance of the pressure the vessel is strengthened to resist the strain by a thickening of the middle and outer coats with a decrease in the elasticity of the artery proportionate to the thickening and fibrous change.

Vaquez very aptly says "sclerosis of the vessels follow hypertension as the shadow follows the body." And Christian sums up the pathologic changes: "If hypertension persists, sooner or later one is able to demonstrate that changes will occur in the larger vessels, arterio-sclerosis; that the heart will hypertrophy and heart failure ensue, myocarditis; that renal insufficiency will appear, chronic nephritis."

The heart, due to increased work, hypertrophies, which as the work becomes more

onerous and the heart less able to cope with the burden, dilatation takes place with the incident decompensation of the valves.

The kidney, in the early stages shows only slight thickening of the capillaries and a few atrophic changes in the glomeruli and in some early cases autopsy often shows that the kidney is perfectly normal.

As the process progresses, the kidney becomes swollen and red with numerous sclerotic glomeruli and tubules, the pathology at this stage combining the condition of degenerative arterio-sclerosis and chronic nephritis, the result of hypertension rather than the cause.

The retinal arteries are tortuous and show hemorrhages, indicating the changes taking place in the arteries of the brain.

Hypertension may persist for a long period of time without disturbing symptoms and be found only upon routine examination by the sphygmomanometer. Unfortunately there is no one symptom that is constant in hypertension but several taken collectively are suggestive. One of the earliest, most common and most constant symptoms is headache, which is usually in the occipital region, sometimes described as "lead cap" coming on in the morning and leaving before afternoon; in later cases it is constant and severe.

Dyspnoea on exertion, as walking up stairs, patient easily fatigues on slight exertion, vertigo, dizziness, pain constriction in precardium, irritability, nervousness, indigestion, memory not quite as good as formerly, nosebleed, metrorrhagia in women, impaired vision, aphasia due to spasm producing cerebral anemia, nocturia and many symptoms depending on the "territorial distribution" of the affected vessels.

The diagnosis admits of two errors, "the one in not seeing it when it exists, the other in failing to recognize it when present."

The blood pressure, after exercise or taking a full meal may be elevated, also in

nervous individuals there is a wide fluctuation, therefore it is necessary to take several readings at each examination and have the patient return for observation on alternate days, and what might be considered hypertension will clear up. The systolic pressure in essential hypertension in the early stages is very variable, excitement causing a rapid rise of 30 to 40 mm. while rest will bring it back to its former level.

The sleeping pressure is lower, but distinctly higher than in normal individuals' waking hours. In nephritic types, this fluctuation does not exist and they have a tendency to be stabilized.

The urinary findings are of great importance in the differential diagnosis of the renal and non-renal types; this is necessary both from the standpoint of prognosis and treatment. In essential hypertension the urine is quite normal or at most a trace of albumin with a few casts and is usually transient in the early stages.

The phenolsulphonaphthalein functional test is of value, for in essential hypertension it is normal or nearly so; also the blood nitrogen is normal or only slightly elevated, while in chronic nephritis there is a deficient pthalein excretion and a high nitrogen retention.

For the general practitioner, the urinary concentration tests are of value, taking the specific gravity and determining the quantity of the excretion of the night and day urine. In essential hypertension, the concentration is normal and there is a normal difference in quantity of excretion, the night's urine totaling 400 to 500 cc. However, in chronic nephritis there is a fixation in amount and specific gravity, the gravity about the same for night and day urines, and the amount approximately the same.

The prognosis of essential hypertension is a distinctly different proposition from the hypertension of nephritic origin. We know that we may give a more favorable

outlook. Many of the patients live with a high pressure from 12 to 20 years; however, in any case, it must be considered to shorten their expectancy.

The main point in determining prognosis is not the height of the pressure itself, but the condition of the heart, kidneys and blood vessels and the patient's reaction to treatment. The diastolic pressure must be taken into consideration in making a prognosis; particularly is this so in its ratio to the systolic; this ratio usually running about one-half of systolic in hypertension. A normal diastolic with a relatively high systolic shows that the heart still has power to carry on.

It is the case with the high or rising diastolic, with a stationary or falling systolic with its incident diminished pressure pulse that betokens the advent of cardiac failure. Tileston states that the prognosis is bad when the diastolic pressure is permanently over 120 mm.

The cause of death according to the statistics compiled by Janeway, showed a greater number of deaths are from cardiac failure and from the height of the pressure drew conclusions as to the probable cause of death. Those suffering with a very high pressure of 220 died of apoplexy or pulmonary edema, while in deaths from cardiac insufficiency and angina the pressure was lower.

The prognosis in males is obviously more serious than in females due to the greater strain of life and the fretting against conditions and inability and willingness to follow advice.

The examination of the eye grounds are of great prognostic value, due to the intimate relationship of the retinal arteries to those of the cerebral.

The treatment of essential hypertension is treatment of the patient himself, rather than any therapeutic regime. Unfortunately these cases are rarely seen in the

earlier stages, that is, before symptoms manifest themselves. It is at this time that most can be accomplished.

Sir Cliéord Allbutt states "if we can catch hyperpiesis early and keep at work against it, it can be cured more often than not." However, after the pathological changes have taken place in the arteries and heart, and nature has readjusted itself to the additional work and new conditions the pressure becomes compensatory and to try to establish the former equilibrium is futile.

The more common use of sphygmomanometer when it comes to the routine examination will enable us to find more of these cases early and save many lives. Our life insurance companies are doing a great good in educating their policy holders to yearly examinations of urine, would it not be good to add blood pressure determination?

We should be as diligent in prophylaxis in our metabolic diseases as in our infectious ones and teach our business and professional men that it is just as necessary for them to strike a balance physically as financially and as the auditor of their accounts we will find many cases in which we may save years and comfort to them.

When we determine a high pressure it is necessary to have our patient take an inventory of his daily habits to determine the full consumption and waste, to ascertain his relation to business and surroundings. Oft times a reduction in the diet, the shifting to second gear with a daily relaxation from business and an afternoon of recreation on the golf course or other things will take him off of his high mental strain.

Unfortunately we do not see the majority of our patients when prophylaxis treatment will suffice, but he will come to us complaining of headache, vertigo, irritability, failing memory, dyspnoea on exercise, fatigue, nosebleed, nocturia and in women, headache, dizziness metrorrhagia at this stage, the

stage of more or less permanent hypertension.

DIET.

While no special diet has any curative effect, there is no doubt that a low protein diet is beneficial. Allen has reported great good from elimination of salt from food; however, this is not generally accepted as of great value. Nevertheless there should be a lower ingestion of salt and only enough added to the food to make it palatable. As these patients are usually heavy and rapid eaters they should be instructed to eat slowly and sparingly and avoid an excess protein for intestinal putrefaction and the consequent throwing of greater work on the kidneys.

At the time of impending crises it might be expedient to use the fruit juice or Karrel Diet, care being taken not to continue this too long. In the obese, a gradual reduction by diet is necessary.

REST AND RECREATION.

As has already been suggested, rest is the most valuable adjunct to treatment. While we can not get actual rest of the vital organs we can relieve the embarrassed heart, the overworked kidney, the burdened brain of some of their loads by proper exercise, diminished diet and mental worry.

The patient should have daily rest for an hour after meals and while physical rest is essential, yet there are numbers who need mental rest, taking them away from the worry of business, shortening their working hours and prescribing recreation in the open; particularly is this true of the obese with sedentary habits.

The elimination of the bowel should be watched, and a daily evacuation be secured. The clothing should be sufficient to prevent body chilling and the kidney not given too much fluid to eliminate.

Drugs are sometimes distinctly harmful and should be used with care and with full knowledge of the end to be accomplished.

The use of the nitrite group has been much abused in treatment and can be expected to do no permanent good, yet during the stage of circulatory embarrassment may be used to great advantage.

The administration of corpus luteum or ovarian substance in the hypertension of the menopause according to Hopkins and Riesman is of benefit.

There is no contra-indication to the use of digitalis in hypertension and it often brings down the diastolic pressure and keeps the relation between the pressure more normal and is the one drug to be depended on in the cardiac complications with impending danger of uremia.

Venesection in the very high pressure of the menopause, removing enough blood to bring the pressure back to 150 is oftentimes a safety valve against cerebral hemorrhage; also is this true in men with an excessive systolic pressure.

The uses of calcium chloride, para-thyroid and the liver extracts recently brought out by Majors and McDonald are yet experimental but great good is hoped to come from them later.

All foci of infection should be sought and eliminated. The use of electricity in its various forms is still experimental.

CONCLUSION.

In examination use the sphygmomanometer more frequently, and find the condition when there is yet time. We should revise our ideas of what hypertension is, not putting our limit of normal pressure too high.

DISCUSSION.

Dr. G. W. F. Rembert (Jackson): It is a privilege to discuss Dr. Howell's paper. I had an opportunity to read it, and it certainly is complete in every detail. There are one or two points I would like to mention.

The classical causes ascribed to high pressure have been four: arterio-sclerosis, nephritis, toxins and endocrines. I think the question of arterio-sclerosis is one that play a role similar to that of

nephritis, on which I will quote from a paper I read a year ago. While the impression has been that it is the result of nephritis, yet for many reasons it would appear that the high blood pressure causes the nephritis. At any rate, there seems to be nothing constant in the relation. It may occur in all forms of nephritis, or it may be absent; it may appear in cases arterio-sclerosis, may be absent; it may appear to be the cause of urinary obstruction, or it may be absent; it may appear in mental conditions, or it may be absent; excessive use of carbohydrates have been thought to be the cause, but it is not apparently caused by the gall-bladder, or by increased vasomotor tension.

Taking up the work that McDonald is doing, I heard him in Detroit a month ago and at that time he reported his results at the clinic of St. Catherine's, Ontario. He said that the hydromines and chloramins were not responsible for the results brought about in liver extract, that these results were transient and had to be reached frequently. He further stated that they were not in position to give further data, since they are still experimenting.

I think very important is Hubig's work on the effect after it reaches 25 per cent. He found in a series of animals, for over 500 days, that in most rabbits he was able to bring about casts and albumin when the protein content was 25 per cent. of the total food. When it reached 32 per cent. every animal showed many casts, and at 39 per cent. there were gross kidney changes. Incidentally he was able to work out three that brought about very rapid changes, one in which he got gross hemorrhage from the kidney and marked tubular degeneration, and he was able to destroy the life of the dog by feeding him cystin. When you consider the work of Newberg in bringing about frequent kidney changes, and follow the work of McDonald in getting liver extracts and regarding the hypertension as probably due to liver insufficiency, to the end products of carbohydrates and fats and not the proteins that have end results in ammonia acids; then it looks as though proteins were factors in the production of renal and liver changes that may account for hypertension.

As to the fixation of the systolic pressure, Slader described last month some work he is doing in Howard hospital, New York. They found in some cases with high systolic pressure that if they had the patients exercise and then took the pressure there would frequently be a drop of from 15 to 30 points in the systolic pressure; in other cases it was fixed. The cases that showed a fall had a chance, and those in which it was fixed did not live long.

Allen's work on the effect of sodium chloride has been mentioned by the doctor. He stresses the elimination of sodium bicarbonate.

Dr. N. C. Womack (Jackson): The routine blood pressure of children and young people has not proven to be very interesting, although there are some observations I would like to make. The information we derive is of relatively little value as compared to the adult. However, in such conditions as chronic nephritis, pyelo-nephritis, or any condition in which there is impairment of kidney function for a great length of time, we may have high pressure the same as in an adult. That is, however, more or less rare. The systolic and diastolic spread is small in children as compared to the adult, and this would indicate a lower reserve power, which is natural in the young.

There is one point I have found, and that is that these young children who have had scarlet fever in years gone by seem to run a higher blood pressure, say 10 to 15 points higher, than the child who has never had it. We know that a scarlet fever kidney is a bad kidney—in time it will play out. I have noticed that and I would like to know if it is the experience of other men. We used to think in syphilis in children we would find high blood pressure, but as a rule we do not. Ninety eight per cent. of syphilis in children is hereditary. Endocrine upset in children does not affect the blood pressure. Of course we hardly ever have hyperthyroid in children, usually it is hypo. It might be affected slightly by being lowered.

This is a wonderful paper and we ought to read and study it carefully, but as far as blood pressure relates to children it is not very important from a medical sense.

Dr. P. W. Rowland (University): It requires very wise discrimination, in my judgment, to approach the proper evaluation of the meaning of arterial hypertension. I can not quite agree with Dr. Howell that arterial hypertension is a disease. I think it is not. So far as I am able to discover it is not a pathologic entity; in other words, there is no definite pathology for arterial hypertension.

In my care of the students at the University in their regular physical examination, I have had occasion to observe, very carefully, their arterial tension, and while, as said before, I am not prepared to say that arterial hypertension is a disease, yet I regard it as a symptom just as important as the most pronounced organic lesion anywhere in the organism.

To illustrate my point I shall give you just two concrete cases with results. In the first place the study of arterial hypertension should be in age groups. We will not be able to understand it until

we do this. Arterial hypertension is quite a different proposition in a man seventy-five, in one of forty, and in one of eighteen years of age. We can, in the man of forty and above, usually determine the cause. But in the age group eighteen to forty, it is, on the other hand, quite indefinite. In this group there is a wide range between the accelerator and inhibitory mechanisms, and one can stand for a long time a considerable elevation of arterial tension without damage; it is in these cases that our diagnostic acumen is taxed to the utmost to discover the underlying cause.

I have in mind a young man, a medical student, twenty years of age, taking part in athletics, and, so far as he knew, as healthy as any man on earth, never sick, his habits regular, a good student, no symptoms whatever to lead him or anyone else to believe he was sick.

In our regular routine examination it was discovered that he had hypertension—220 systolic. A man twenty years of age—not a symptom to indicate it. I could find no cause for it. I place him in the hands of some of the best clinicians in the country, and nothing was found to account for it, yet it was a permanent hypertension. That was seven years ago—the young man is dead, dying suddenly. Now, in that case it was a very important entity.

Another case in the forty age group, a man whom I had known for twenty-five years, never sick, a man of temperate habits, a man who played golf and took regular exercise and extraordinary care of his body—a Christian gentleman engaged in high class type of work. He applied for life insurance. Arterial hypertension was found—225 systolic. We were astounded. A most thorough examination by several splendid diagnosticians revealed nothing to account for it. For eight years I have had him in hand, under careful diet, regular exercise, and at intervals taking various forms of hydro-and electrotherapy. During this time we have been able to keep his pressure within an average of 170. Recently he consulted a physician while visiting in a certain city, not with reference to his high tension, but this physician found it out, and made light of it, telling him that it was psychological, meant nothing and to go ahead and think nothing of it. This gentleman was sensible, but advice like this had its effect in causing him to relax his vigilance as to his habits, and three months ago he had a cerebral hemorrhage and is now a hemiplegic.

Gentlemen, I warn you, it will not do to treat these cases carelessly. Arterial hypertension in the early years of life is extremely important, and

should be managed skillfully, but not with drugs, they are useless.

Dr. G. A. Hendon (Louisville, Kentucky): I do not know when I have been more edified than both this morning and this afternoon. It happens to be the first medical session that I have been privileged to attend for a long period of time, my work being in surgery, and I have been astonished at the large amount of important information that I have been able to glean from these discussions that apply to the surgical phase of disease.

In discussing this question of hypertension, which is important to both the surgeon and the medical man, I want to say that I believe the problem can be reduced for rapid solution down to one thing, and that is that the hypertension is due to resistance. When you have hypertension it is up to the investigator to find out where the resistance is. I mean resistance in the circulatory system. That resistance can come from change in character of the arteries, and changes in the tissues of the arterial wall. You take an artery with a wall where the elastic tissue has been destroyed and substituted by connective tissue, and you have established there an enormous amount of pathological, abnormal resistance. A good comparison is to take a given amount of pressure and force water through a rubber hose—see how far you can throw it. Then take the same amount of pressure and endeavor to force water through a canvas hose, and see how far short it will fall. Consequently, in the case of the artery, the blood when it reaches a certain point must overcome the resistance resulting from the loss of elastic tissue.

I would think of hypertension in terms of resistance, and when confronted by any case I would search for the resistance. It might be in the kidney, for we know a diseased kidney shows enormously increased resistance because of the current of blood through the organ. The resistance might come from alteration in the size of the vessels. Where an artery has its lumen reduced by the over-activity of the constrictors then the tension will be correspondingly increased. There is your resistance. It is up to you to investigate and search for the source of this alteration in the lumen of the vessel. That can come about in various ways. I believe that some of these unexplained cases of hypertension are due to some upset of the endocrines; and then we know that hyperactivity of the vasomotor structures reduces the size of the lumen, and that will cause resistance.

A third source of resistance is alteration in the constituents of blood. When blood is impoverished, or is poisoned, or shows any extraneous

principle, it requires a great deal more force to send it through the arteries than when the blood is normal. That is where we get hypertension in cases of puerperal eclampsia, or in any kind of impoverished or poisoned condition of the blood, the endothelium that lines the artery seems to have a revulsion against the contact of abnormal blood. Therefore you have this third source of resistance. If you think about hypertension absolutely in terms of resistance, and then try to figure out where the resistance comes from, I believe the problem will be very much modified.

Again, you can have hypertension on account of increase of propelling force. If the heart has become hypertrophied and exerts an abnormal amount of force, there you have hypertension again. The heart muscles do not become hypertrophied unless there is resistance to overcome, and that brings us back to the point where we are simply grappling with the problem of resistance.

We find in surgical work that we can reduce the cerebral tension or compression by the administration of magnesium sulphate intravenously. This has been brought out by Dr. Downman of Atlanta. With the brain exposed he administers a 25 per cent. solution of sulphate of magnesia, 10 cc. intravenously, and the brain can be seen to recede from the interior skull. That is becoming a very valuable adjunct in the treatment of compression of the brain on account of the lowering of the enormous amount of tension. Whether that would apply in general medicine, I do not know.

Dr. John B. Howell (closing): All I want to say is that this condition should be regarded as a clinical entity. It does not go into the class of nephritis, it does not fit a diagnosis of arteriosclerosis, and therefore these things are the end results of hypertension and it is a clinical entity which should be sought and gotten rid of.

Dr. Rowland contends that the pressure goes up with age, which is partially correct, but yet we find many of them who have reached 60 or 70 and have a pressure of 128, so it is not a question of degeneration of age; it is the degeneration of disease.

From a prophylactic standpoint which is the only treatment we have at present, whenever a patient of 40 or over comes for examination, no matter how trivial the malady a blood pressure examination should be made and by so doing we will find many who have a high pressure. It is also necessary to have a definite idea of what we are going to call hypertension. A pressure of 160 in any individual regardless of age should be regarded

as hypertension, after of course several examinations made on different days. When the symptom hypertension is found it is necessary diligently to seek the cause, for it may not be found in the kidney nor in the degeneration of the vessels themselves but if allowed to continue will cause a damaked kidney, heart or blood vessel.

LOCALIZED INFLUENZAL AFFECTIONS OF THE HEAD.*

RUFUS JACKSON, M. D.,
BATON ROUGE, LA.

With those affections of the head usually attended by mixed infection and suppuration both practitioners limiting themselves to the special senses, and the general practitioners, have had ample opportunity to become quite familiar since the epidemic of 1918.

In speaking of localized influenzal affections of the head I wish to refer to the suppurative conditions only to such an extent as will serve to indicate to you the process by which I was led to form my deductions in relation to another class of affections which I have come to diagnose and treat as influenzal.

The middle ear and its drum membrane in their varying reactions to the bacillus of influenza, or its toxins, affords us the greatest enlightenment on the reaction of human tissue to this organism. In the early days of the epidemic it was usual thing that in those cases of influenza, in which the ears were involved, on examination the aurist was confronted with sero-sanguinous vesicles, arising from either the canal wall of the drum membrane, or both. Rupture of these opened the way to the drum membrane, the incision of which usually liberated serum from the middle ear. And it was the rule in those cases during the high virulence of the epidemic that the middle ear infection became mixed, and suppuration ran its course. As the

virulence of the strain responsible for the epidemic began to wane, the frequency of mixed infection and suppuration became less; so that more and more there was an increase in the percentage of cases which resolved after only a serous middle ear discharge. Of the maxillary antrum the same has been true according to my observation, but it was very much later; and it was only quite recent that a case was observed to manifest only a hemorrhagic aspect without going on to the suppuration of mixed infection.

Let me call your attention more closely to a manifestation of the bacillus of influenza already referred to which to me is peculiarly unique. I refer to the fact that we find it affecting the middle ear and the epithelium of the drum membrane and canal simultaneously. It evidently is blood borne and hence is not confined by the structures which to other organisms are barriers; and it is this observation which has influenced me most in laying at its door a number of obscure and varying conditions.

The missing link, as I might term it, was supplied by a case of myringitis, first treated during February, 1923, and so oft recurring during the subsequent three or four months, as to almost deserve the term of chronic myringitis. This case was an infant four months of age. The chief complaint from the mother was that it cried all night, and it was attended by little or no elevation of temperature. The examination of the drum membrane showed only slight variation from the normal, exhibiting neither the typical picture of a retracted membrane nor of a bulging membrane. But in view of the fact that the condition had persisted for sometime and did not yield to the usual local applications to the drum membrane and intranasal medication designed to render patulous the eustachian tubes, incisions of the drum membranes were repeatedly resorted to. These incisions usually gave relief for about one night and when the mother could stand the crying no longer she would bring the child back and the incision would be repeated on the drum looking the most suspicious of progressing to middle ear suppuration.

After this had gone on for something more than a month, a neighbor of the mother suggested the advisability of consulting one of my

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confreres, which advice was taken without the traditional recourse to consultation. My confrere was impressed with the idea that the condition was the usual infection arising from adenoids, and advised operating for the removal of the same. To this the mother consented and the operation was performed, but to no avail; for the child was brought back to me about a month later with a full explanation from the mother of what had been done and the child exhibited the usual condition in one of its ears. By this time I felt that I had sufficiently gained the confidence of the mother to institute a policy more of the watchful waiting character, so that when the child was brought back to me with the drum membrane inflamed only in shrapnells and along the long process with perhaps a slight impairment of its translucency, I would refrain from incision and advised the mother to obtain what relief she could from the instillation of an anesthetic lotion and delay a day or two. And while the condition often went on to the point where the drug assumed a thickened and opaque appearance it was rare that incision ever liberated any unmistakable accumulation in the middle ear; and the few times that it did this accumulation never progressed to a frank suppuration.

When the summer of 1923 was well established there was a remission of this very distressing condition until February 6th, 1924, when there was a recurrence of the same condition. Up to this time I am sorry to say no more advantageous manner of combating the condition had suggested itself to me, and if there had been anything in the current literature to give enlightenment on this matter my reading had been too superficial to discover it. So the little fellow was doomed to suffer more at my hands during the next four months, which brought us to the middle of May, when, so far as my knowledge goes nature again established its own immunity.

Previous to my service in a special senses hospital ending in the spring of 1914, serum treatment had been weighed in the balances and found wanting by some of my clinical chiefs; so that I had rather dogmatically refrained from any experimentation with such substances even after positive claim for their efficacy began to be made. But through association with some of my fellow practitioners who were inclined to be more open minded than I was, and were using the various bacterins and sera in cases that were frankly influenzal and complicated by affections of the special sense organs, I

became convinced that these agents did produce definite results in at least aiding the patient to stage a recovery. And a little more than a year ago, I began the use of such substances rather freely, especially in those cases of ear affection which did not show a disposition to go on to suppuration; and the results had been so gratifying that when I was called to see another case of frank myringitis which exhibited the ear drums now very familiar to me, and whose mother declared most positively that he had not ceased crying night or day for the past three days, I was prepared to administer treatment with a great deal more confidence of bringing about a cure than I had felt in regard to the case of some two years before. This case also was an infant of four months age, and because I could not be positive of the evidence afforded by examination of the drum membrane I incised it; and while this gave relief from crying that night no middle ear discharge was observed and the continuous crying was resumed the following night.

The crying in this case had been very much in evidence for two weeks previous to the time I saw him, and although his discomfort was so great that he had cried continuously for the three preceding days and nights, there never had been any elevation in temperature. The night after the crying was resumed I injected one-half cc. of sero-bacterin in the arm; that night he slept well. The next night he did not sleep so well and the following day I repeated the dose of the sero-bacterin in the other arm. For three days and nights he was free of crying, and on the third night began again; then I explained to the parents my confidence that a more protracted course of the sero-bacterin would give relief. Upon their consenting I proceeded to give one-half cc. doses on alternate days until four doses had been given in the second course. There was complete cessation of the crying. The elevation of temperature during the administration of the serum was negligible.

Within the past year I have had occasion to observe about a half dozen adult cases complaining of ear ache whose ear drums and eustachian tubes on careful examination revealed no pathology; nor were there any foci of irritation in their teeth or tonsils to account for the pain. Bearing in mind the picture of gradual and consistent attenuation of the pathological changes occurring in and around the drum membrane under the influence of a more and more attenuated strain of the bacillus of influenza, it seemed reasonable to me to attribute this ear ache to irritation, influenzal in origin, of the tympanic branch of the facial nerve. Recently I have seen a few cases that have helped much in substantiating this diagnosis which to many of you doubtless seems far fetched. In these recent cases other and more superficial terminal branches of the facial nerve, to-wit: those spreading over the mastoid and those distributed to the scalp over the temporal and parietal areas, have evidenced the low grade pain and superficial tenderness of a terminal neuritis. These cases have without exception cleared up on the injection of sero-bacterin requiring without exception I believe, only one dose.

Three months ago I was asked by a medical practitioner to see a case which he thought had a labyrinthian involvement. The patient, a white man, age fifty-five, was confined to his bed on account of dizziness and some tendency to nausea. Two weeks previous while in conversation he became "giddy," as he expressed it, so very much so that he excused himself from the gentleman with whom he was in conversation. The giddiness was accompanied by nausea and vomiting so that he was forced to go to his home and remain in bed for a day, after which he returned to his shop and got along very well for one day at his work. His occupation is that of a tin smith. The second day of his return to work he became "giddy" while working at his bench, and this was accompanied by nausea and vomiting even more severe than two days before, so much so, that the family doctor was called to come to his shop. He was given aromatic ammonia and carried home and put to bed. After ten days of rest in bed and palliative treatment I saw him, still too much inclined to be "giddy" to get up; for he had made attempts to get out of bed and was forced to return each

time. There was no nystagmus at all, nor was there then nor had there been any elevation in temperature. For evident reasons I did not think it advisable to try stimulation of his semicircular canals to try to determine the exact location of his disturbance. I advised the doctor that it was my opinion that he was affected with labyrinthian irritation and that the causation was influenzal. I recommended that he be treated with an injection of five minims of sero-bacterin for two successive days, and then continue the injection on alternate days, raising the dosage first to seven and one-half minims, then ten and continue the latter dosage. Six injections were given, at the conclusion of which the doctor pronounced the man cured, and he resumed work three or four days later.

In the beginning the blood pressure had been taken by his family physician and found to be 180 systolic. Diastolic not recorded. At the time of discharge of the case the blood pressure was again taken and then found to be 140 systolic. Diastolic not recorded.

On February 20th, this year, a white male, age 38, consulted me on account of tinnitus aurium of both ears, which had been present intermittently during the past ten months. During the past seventy days, it had been continuous, the left always worse, the right ear sometimes remitting. A few weeks previous his blood pressure had been found to be only 110 systolic, although he had a florid appearance and the doctor had expected to find the blood pressure elevated. This low blood pressure was considered a sequel of an attack of influenza which he had suffered about three months previous and from which he was not considered to have well recuperated because of too close and too energetic application to his business. His work is that of a salesman for a wholesale grocery and requires that he cover an extensive territory in an automobile. Although the blood pressure had improved to 130 systolic under treatment, no improvement in the above mentioned symptoms had occurred. Because of the existence of a heaviness and low grade neuralgic feeling over his frontal sinuses, which was not explained by the findings of intranasal examination, which syndrome I have often observed and diagnosed and treated as influenzal, the question arose in my mind as to the probability of there being a common causation of his frontal symptoms and the ringing in his ears. Being in complete possession of his confidence I told him that I was going to try a series of serum injections to see what effect it would have on the ringing in his ears. I neglected to state that examination of his drum membranes and eustachian tubes showed negative findings. On the 20th and 21st, each, I injected five minims of sero-bacterin and on the 24th, 28th, and March

3rd, I injected ten minims. After the second injection both the heaviness and tinnitus were improved. Three days after the third injection which was one day before the 4th, the tinnitus in the left ear was excessive. The next day it was entirely abolished and has continued so up to the present writing.

While I could recite to you the findings and results in a number of other cases, some very dissimilar from these in certain respects, I believe these will suffice to illustrate to you what I have tried to convey without incurring the risk of tiring you.

As to the question of specificity of action of any serum, bacterin, or sero-bacterin, I am not prepared to express an opinion. I have used a sero-bacterin because, according to my observation, the bacterin which is its most formidable rival in my locality, is without any efficacy whatsoever. A very well informed general practitioner friend of mine tells me that the use of typhoid vaccine in the hands of Miller of Chicago has produced the same results in the treatment of certain myalgias for which I have used sero-bacterin, designed to have a specific action.

DISCUSSION.

Dr. J. R. Hume (New Orleans): Dr. Jackson has just given us a very interesting phase of a very interesting condition. It seems as if the aural symptoms due to influenza are a good deal like an automobile; they change models every year. The type of cases that we see this year certainly is not the type of cases we saw last year. The aural symptoms of this recent epidemic have been as unlike those of last year as if they were different diseases entirely.

In point of frequency this recent epidemic has given perhaps fifty per cent more cases with aural complications than any previous epidemic that was noticed here, and the type of organism is evidently the thing that determines our symptom complex, whether it is the milder types like Dr. Jackson has shown us with myringitis or whether it be the more profound types of mastoiditis with the graver symptoms.

Just recently we have had five cases that showed some very unusual symptoms, and I would like to call your attention to these cases. They all began within three weeks of each other. All were seen at the ear, nose and throat hospital. They showed the usual symptoms in onset of an acute otitis media, showing a temperature of about 101 or 102,

bulging drum. The drums were incised but the temperature did not decline. A serous discharge in the beginning gradually became freer. The laboratory report showed a non-hemolytic streptococcus. After two or three days when we usually expect the temperature to decline, the temperature continued. There were no clinical symptoms of mastoiditis over the mastoid. X-ray pictures showed only a very slight cloudiness and at the end of five or six days a typical septic temperature developed in each of these five cases.

There is such a little variance in the symptoms or in the temperature curve of any of them that I have classed them altogether. Believing that there certainly was a mastoid involvement they were all operated on and found no coalescence of the cells, no pus in the mastoid cavity proper, but a lateral sinus thrombosis in each case. Two of them, after the sinus wall was removed presented pus about the sinus itself with no pus found in the mastoid cell.

The blood picture as regards the white cells was very much as a usual blood picture in an infection, but the red cells showed an almost immediate diminution from five down to two and one-half million, in three or four days, with a decrease in the hemoglobin from eighty to sixty-five. These cases were unusual and as I have had so little experience with the sero-bacterins was curious to know if sero-bacterins would have been of value as a therapeutic measure in their conditions.

Dr. N. F. Thiérge (New Orleans): Gentlemen, I want to confirm the experience that Dr. Jackson had with the serum but I want to put a different interpretation to that. I have had similar cases where the patients were on the point of being submitted to an operation for some influenzal complication, some sinuses that were blocked or the mastoid threatened, where the operation was avoided by the use of vaccine. But the results of this work I think are susceptible of different interpretations.

I have done a good deal of work in hay fever, specific pollen injection, and then some specific vaccine injection, and in the back of all that the impression seems to be forming that the non-specific protein is the element that works. In other words, instead of using the sero-bacterin, influenzal sero-bacterin, if we had used peptone I think the result would have been the same. We are using less and less of a dose of the vaccine now. The object to be attained is always kept in mind. The antibodies are not supplied with the serum or with the vaccine that we inject but our only object is to stimulate the antibody formation in the patient himself, and I think finally that will be the only conclusion to be drawn.

I don't advise waiting too long for operations but I think in chronic cases or subacute cases it is wise to use a few doses of non-specific protein before an operation is performed.

Dr. O. C. Cassegrain (New Orleans): I have had little experience with ear, nose and throat work, but it struck me as I listened to these gentlemen that possibly the explanation of the benefits derived from the use of sero-bacterin is very much on the order of the benefits derived when we inject a foreign protein. For example, not long ago Dr. Gelhorn, in speaking of localized infections spoke of the benefits to be derived from injecting foreign protein like milk, and it just struck me as possible that the same benefits are derived because of the foreign protein used in these particular cases. I just would like to know if any of the otolaryngologists here today have used milk or any other protein outside of the bacterins in the treatment of these infections, and if they have, what result was obtained.

Dr. Jackson (in closing): In that portion of my paper which I was not able to read on account of the limited time I have anticipated much of the discussion of the subject, and if I may be permitted to conclude the reading of the paper it will, I believe, satisfactorily answer the discussion. (Finished the paper.)

ECTOPIC PREGNANCY.

J. MOSBY ALFORD, M. D.,
OKLAHOMA CITY, OKLA.

Ectopic pregnancy is of modern diagnosis. It was unknown to ancient medicine. The possibility of conception taking place and the partial or complete development of a foetus outside the uterine cavity was never suspected prior to the tenth century. The first recorded case is by one Albucasis who practiced in Spain about the middle of the eleventh century. He reports having seen foetal bones suppurating through the abdominal wall of the patient. I have read the account which that venerable physician gave of this experience, and while he recognized the bones as being the skeletal remains of a foetus, I do not believe that he suspected that they probably obtained their growth outside the uterus. The first reported recognition of ruptured tubal preg-

nancy is by Riolan, in 1604. This patient was four months pregnant with her eighth child when she was seized with violent pains, with syncope, and died early the next day. On post-mortem there was found a foetus in the right fallopian tube. The uterus was uninjured and empty.

Dr. W. W. Harbert in 1849 first suggested immediate laparotomy for ruptured tubal pregnancy. No one had the courage to accept his suggestion until in 1883 Lawson Tait performed this first operation. His patient died but the observation made by Tait convinced him that immediate operation was the best treatment, and out of his next forty patients he lost only one; a record that has not been surpassed even to this day.

FREQUENCY.

The ratio which prevails between normal and ectopic pregnancy is difficult to determine. Our better diagnostic ability has taught us that it is much more frequent than was formerly supposed.

In the city of Philadelphia where vital statistics are kept quite accurately, it has been estimated that about one out of every three hundred pregnancies is ectopic. I believe this estimate to be quite conservative. DeLee states the condition occurs more often in the city than in the country. If that eminent authority had said it was more often *diagnosed* in the city than in the country, he would have been more correct. I believe there are many cases of ectopic pregnancy that terminate by early tubal abortion, or even rupture, and the product of conception is absorbed by the peritoneal cavity, and the patient never even consults a physician, believing that she has only suffered a delayed menstruation.

Case records show that both tubes are involved with equal frequency and there are several authentic cases recorded in which it occurred simultaneously in both tubes. There has even been a few cases reported in which tubal pregnancy coexisted with

normal pregnancy. It is interesting to note just here that veterinarians tell us that ectopic pregnancy has been found in domestic animals.

CAUSES.

Extra-uterine pregnancy is due to some interference, or obstruction to, the normal passage of a fertilized ovum into the uterine cavity. It seems that all observers now agree that the ovum is fertilized before it reaches the uterus. The ovum may be arrested in its descent in either the ampulla, the isthmus or the interstitial portion of the tube. Dr. Polak, of Brooklyn, says that the occurrence at these points bears an almost constant ratio of 76, 21, and 3 percent respectively.

In order to avoid much repetition, I am going to ask that we include ovarian pregnancy with tubal, as the end results are practically the same. For the same reason I will ask that we regard tubal abortion as being the same as tubal rupture.

TERMINATION.

The terminations of tubal pregnancy are primary and secondary. (1st) The ovum may die in the tube and be absorbed or form a tubal mole. (2nd) The tube may rupture into the folds of the broad ligament or into the peritoneal cavity where it may die and be absorbed, or else becoming infected, undergo suppuration. Should the embryo survive rupture it may continue to grow to part or full time gestation. In interstitial tubal pregnancy the foetus may be gradually extruded into the uterus. The secondary termination of tubal pregnancy is where the embryo survives rupture and the placenta attaching itself to contiguous structures, the foetus survives to approximately full term. At the end of this full term there occurs a spurious labor in which the woman has pains closely resembling normal labor; the foetus dies and becomes infected producing suppuration, or else, becomes a fatty mummy-like form known as adipocere, or else a calcareous hardened form known as lithopedian. These litho-

pedian formations have been known to remain in the abdominal cavity for many years before something would develop to cause the woman to seek relief by its removal.

PATHOLOGY.

Briefly stated, we might say that the pathological changes are just about those we would expect to occur depending much on the time, and place, and method of the ultimate death of this foreign body which has intruded where it was unwanted and unwelcome. For when the fertilized ovum fails to reach its normal habitation in the uterus, it becomes a true parasite and in its struggle for existence usually works its own destruction. Tubal rupture usually occurs before the eighth week and practically always before the twelfth. The most interesting pathology takes place in the uterus itself. The body of the uterus proceeds at once to enlarge but not in proportion to the term of pregnancy. There is formed a true decidua in the uterine cavity. This is an instance of where pathology perpetrates deception upon physiology. The uterine mucosa responding to the stimulus of conception makes ready to become the host of a guest who will never arrive. This decidua remains adherent and intact and does not acknowledge its disappointment until the beginning tubal rupture. The expulsion of the decidua with some bloody vaginal discharge, which closely simulates normal menstruation, indicates either the death of the embryo or the beginning of tubal expulsion.

SYMPTOMS AND DIAGNOSIS.

In considering the symptoms and diagnosis we must make emphatic distinction as to whether we are making the diagnosis prior to or following rupture. There is hardly any pathology that can hide itself more effectively and then in a few short hours reveal itself more openly than an ectopic pregnancy. Prior to rupture of the sac the absolute diagnosis is always difficult, and most of the time impossible. After rup-

ture the symptoms become as clear as an acute appendix. Prior to rupture the outstanding subjective symptoms are amenorrhea, pain and soreness in the pregnant tube. If there be breast and gastric symptoms they are usually less marked than in normal pregnancy. The patient has a feeling that while she suspects herself pregnant she fears that all is not well. If she consults her physician he should make careful but gentle examination. The objective symptoms will be a softened cervix, slight uterine enlargement with abnormal pain to the slightest manipulation, so much that the examination is usually unsatisfactory. The above symptoms, together with a history dating back a number of years that would indicate pelvic adhesion, would warrant a tentative diagnosis of extra-uterine pregnancy. After rupture there will be added to the above symptoms an increase of pain, sometimes so agonizing as to produce the so-called tragic stage. (I wish to state that this tragic stage is more often absent than present.)

Due to the chemical irritation of blood in the peritoneal cavity, there will be a mild leucocytosis which subsides quickly but recurs with each additional escape of blood into the peritoneum. There will be a slight rise of temperature, usually to less than 101 degrees. As soon as the decidua begins to separate there will be a bloody vaginal discharge which more resembles menstruation than it does the excessive clotty flow of threatened abortion. On vaginal examination there will be found a soft, tender mass behind, or to one side, and rarely in front of the uterus. Cullen's sign of the bluish-green tint around the navel will not be present unless the pool of blood extends that high. Jaundice of the conjunctiva, coming about two weeks after rupture indicates the absorption of blood from the peritoneum. The best short statement of the symptoms of ectopic pregnancy that I have read is that given by Harris when he says: "When any woman after puberty and before the menopause, who has menstruated regularly and

painlessly, goes from five, six, eight, ten, fifteen to eighteen days over the time at which menstruation is due, sees blood from the vagina differing in quality, color, quantity or continuance from her usual menstrual flow and has pains, generally severe, in one side of the pelvis or the other, or possibly in the hypogastric region, ectopic pregnancy may be presumed."

Polak says: "We teach that any woman is liable to ectopic; that where there is anomalous bleeding, a skipped menstruation and abdominal pain, even when it is attributed to indigestion, ectopic should be suspected. When there is painful defecation or rectal tenesmus, associated with vaginal bleeding, always thinks of ectopic. That when called to see a woman in collapse with any of the appearances of internal hemorrhage, always diagnose ectopic, for, in the majority of cases you will be right, and in all cases she presents a surgical proposition."

Should the foetus survive rupture and continue to develop until motion is felt and heart sounds can be heard, then the difficult problem of diagnosis between intra and extra-uterine pregnancy must be made. The previous history will be helpful. The presence and movements of the foetus are progressively distressing and painful, producing a semi-invalidism. There will be absence of Hegar's sign. If uterus can be felt it is found empty. Foetal outline in abdomen is difficult to determine but everything indicates it to be abnormally near the surface. Radiograph is sometimes helpful.

TREATMENT.

The consideration of treatment of extra-uterine pregnancy resolves itself into the simple question of when and how the operation should be done. The only exception to the above statement is again to call attention to the fact that many women have an extra-uterine pregnancy with early rupture and death of the embryo and complete absorption and never realize just what happened. They usually think that it was

simply a delayed menstruation, or, at most, a spontaneous abortion, and if they seek medical advice it is an easy matter for the physician to overlook the correct diagnosis. When the above incident happens, and there is no infection or other ill effects resulting, and the woman returns to her normal health in a few weeks, then an operation is unnecessary. But this fortunate outcome is the exception rather than the rule.

With our increasing diagnostic acumen there may be an occasional case where diagnosis can be made prior to rupture with reasonable certainty; in such cases an operation should be promptly performed. After rupture has taken place the patient should be operated upon just as soon as she can be placed in a hospital and receive efficient surgical cure *regardless of her condition*. In making the above statement I am not only giving utterance to the teaching of men of large experience and of accepted authority, but am also expressing my own conviction that has come to me through more than one sad experience, an experience which so far as I am concerned shall never be repeated. The more extreme the condition of the patient the more urgent is her immediate need for surgical relief. With all deference to the conservative surgeon or gynecologist who hesitates to add operative shock to a patient whose condition is already extreme, I can only say that I firmly believe that the man who acts boldly and promptly will have a smaller mortality than the man who hesitates and delays. If a patient cannot survive a quickly performed laparotomy with tying off the bleeding vessel, then she would die if left alone. Hemorrhage will produce more shock than the laparotomy, and, after a patient has bled to death in her abdominal cavity, it is unfair and untrue to say that she died from shock. Of course all supportive measures should be used during operation, especially blood transfusion, or, if this is not immediately available, then some other intravenous solution, preferably glucose. It has been suggested that the

blood in the patient's abdomen be dipped out and saved and then transfuse her with her own blood. I believe that this procedure would add technical difficulties that would more than nullify its benefit. The above discussion applies to those patients whom we find in the tragic stage. Fortunately most cases do not present this stage. On account of the peritoneal adhesions which take place around the eroding tube, the perforation is more gradual and the hemorrhage is not so massive. There may be repeated small hemorrhages as the tube gives way to the growing embryo, and the true pathology is revealed in a progressive way. Again I say that operation is indicated as soon as the diagnosis is made. Finally we must deal with extra-uterine pregnancy where the foetus survives rupture or tubal abortion, or where the ectopic is of ovarian origin. In this condition the placenta engrafts itself upon any organ of contact, and just as the mistletoe dropping upon the branch of a tree proceeds to establish vital connection with the sap that flows beneath the bark, so does the placenta proceed to establish vascular connection with the vessels beneath. Nor does this octopus-like organ practice any economy in the blood supply which it provides to the growing foetus, for it develops blood vessels so large and so numerous that the moment we begin to detach it we are met with an outpouring of blood that is appalling and impossible to control. The foetus in its sac disports itself with painful activity among the intestines. It is easily recognized as soon as the abdomen is opened and its removal presents no difficulty. The problem which remains yet unsolved is how best to deal with the placenta. If by good fortune it is found to be attached only to the uterus and such organs as can be removed, then it may be removed with these organic attachments. But where attachment is to parietal peritonem, intestines and mesentery, then immediate removal becomes a surgical impossibility. If the placenta cannot be removed

it may be dealt with by marsupialization in which the edges of the gestation sac are sutured to the abdominal incision and the opening lightly packed with gauze. This gauze picking is renewed every second day. In the course of a few weeks the placenta will have sloughed leaving a sinus which will usually close. In recent years Beck has left the entire placenta to be absorbed. He cuts the cord closely and closes the abdomen without drainage. His mortality is about thirty-three percent which is at least as good as that obtained by marsupialization.

There can be no rule laid down as to the best method of dealing with every case. In spite of all our surgical devices the mortality remains high. I do not believe the subject has received the study of the average physician to which its frequency and importance entitles it. There is much in the literature concerning it but more often the report of isolated and freakish cases. While the reports of these cases are instructive and interesting, yet we should study the subject as an entity, using each case we meet to add to our store of experience. It is a many sided problem and to cope with it successfully demands that we acquire that rare something called surgical judgment.

STEWART'S INCISION IN RADICAL SURGERY OF THE BREAST.*

RUSSELL E. STONE, M. D.,
NEW ORLEANS.

The incision in any surgical procedure has always and will continue to be an important factor in the final analysis of surgical operations and always deserves careful planning. A badly placed incision hampers the operator in the subsequent steps of the operation and often necessitates making a secondary incision causing unnecessary disfigurement of the patient. The worse feature of a badly placed incision

is that it does not give ready access to the anatomical structures to be dealt with later. For instance, an incision for inguinal hernia placed too high or too low or not parallel to Poupart's ligament; a vertical instead of a transverse semilunar incision in fracture of the patella; or, a perpendicular incision instead of a transverse



Figure 1—Outline of incision showing extent of skin removed.

incision in thyroid surgery. A faulty incision is the most common mistake with the average surgeon and often leads him into serious trouble. The ideal incision is one which permits the greatest accessibility to the structures to be dealt with and which does the least damage to the structures through which it goes. It is one that can be closed with the least disfigurement which results in restoring the normal relation and function.

I know of no operation that has more different incisions designed than that for amputation of the breast. None were ideal until Stewart of Philadelphia created his transverse incision in 1915. The incision is nearer the ideal than any I know of. Other incisions which gave the best cosmetic results and interfered the least with the subsequent function were the worse as they did not include enough skin or did not give sufficient access to the tissue to be removed. Until the Stewart incision was introduced all the incisions which gave the best exposure and enabled surgeons to do radical surgery resulted in disfigurement and often disability. One might say that this should not be objection as a thorough removal of a malignant condition, but the fact remains that the latest text books of operative sur-

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

gery fail even to mention this wonderfully incision of Stewart. No lesser authority than Dr. W. W. Keen said that he considered this incision one of the most important contributions to surgery in the past fifty years.

The Stewart incision is an elliptic transverse incision. The ellipse including as much skin as indicated. The exact situation of the elliptic incision may vary with the site and size of the tumor; *i. e.*, it should be placed higher when the tumor is nearer the upper periphery of the gland and lower when the tumor is nearer the lower periphery. The shifting of the line of incision permits one to remove the skin above and below as the situation of the tumor may indicate. One would be impressed at first glance at the incision, as shown in Fig. 1, the possibility of not being able thoroughly to expose the axillary structure, but by mobilizing the skin the axillary space is exposed so thoroughly that a complete dissection can be readily and easily accomplished.



Figure 2—Mobilization of lower skin-flap which facilitates closing of wound and the wide removal of fat and fascia with breast.

I have used this incision in forty-seven cases and have obtained a better exposure than I have ever been able to obtain in any other incision employed as you will readily see in the other figures. A thorough mobilization and a retraction of the skin is very necessary over the pectoral muscle and in the axilla. When the elliptic incision is made the skin should be thoroughly mobilized, both, above and below the mama. The

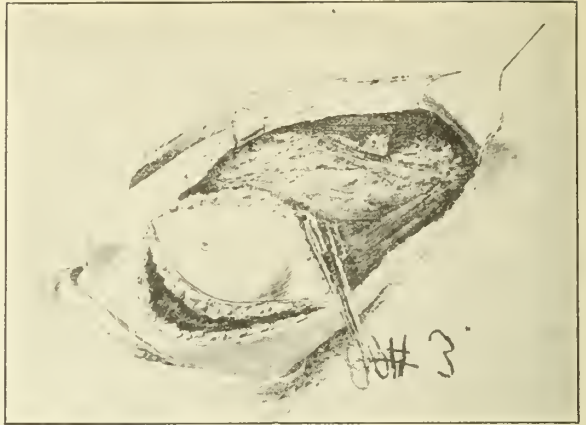


Figure 3—The possible retraction of the upper flap and the division of the tendon of the pectoralis minor. The extent of the exposure of the axilla is indicated by the stump of the tendon.

mobilization should extend down under the arm beyond the hair line of the axilla. One advantage to be gained from the mobilization at the beginning of the operation is that it permits you to remove the fat and fascia beyond the breast. With this mobilization and retraction of the axillary skin the pectoralis major tendon is exposed down to its insertion.

The next step in the operation is to determine what structures are to be removed. Our custom is to remove both pectoral and part of the sheath of the latissimus dorsi and serratus magnus muscles. If the growth is situated at the lower and inner quadrant of the breast it is more important to remove fat and fascia from the upper portion of the rectus than to remove the lesser pectoral muscle. It is always a personal equation as to what procedure one will follow in a given case. The change from the routine depends upon the situation of the pathology. The greatest advantage from removing the lesser pectoral is that it gives a much freer exposure of the glands along the axillary vessels and permits a more radical dissection. In the usual case you first separate the clavicular from the pectoral portion of the pectoralis major and then divide the pectoral portion of the tendon nearest the insertion into the humerus. This portion of the muscle is then reflected, the tendon of the lesser pec-

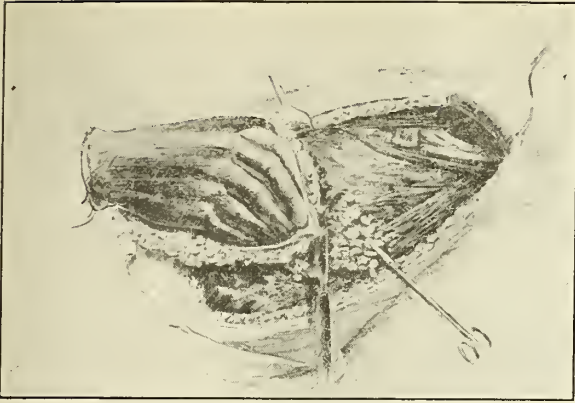


Figure 5—The final step in the operation after reflection of the axillary glands and fat, with as much of the sheath of the subscapularis, the latissimus dorsi and serratus muscles as is indicated the attachment of the two pectoral muscles divided.

toral isolated and divided near the coracoid process. The glands and the fat of the axilla are then dissected free from vessels and reflected with the muscles a clean dissection of the axilla is attended to. All the fat overlying the subscapularis muscle and the latissimus dorsi are removed, plus glands if any involvement found. The sheaths of these muscles are removed. The origin of the pectoral muscles are divided, the breast with attached muscles, fat, glands and fascia is turned downward and as much of the sheath of the rectus and the serratus muscles are removed as indicated by the extent and situation of the growth.

Evidence of supra-clavicular gland involvement can be removed with this incision. Personally, I believe when the supra-clavicular glands are involved the case is incurable and inoperable. Haemostasis must be absolute before closing the wound because the accumulation of blood and serum in this type of incision is a very troublesome complication. Drainage is established by a rubber dam introduced into the axilla near the outer angle and removed in 48 hours.

One of the many faults in other incisions in breast surgery is the inability to close the wound completely often necessitating skin grafting. We have never had to

resort to this in our series. The wound should be closed from the two ends; *i. e.*, one stitch is placed in one end then at the other because if the closure is started at one end and carried across the wound you are apt to find the difference of the two lines of the ellipse result in a disfiguring inequality in the two edges of the wound.

CONCLUSIONS.

The Stewart incision permits one to carry out the principles taught by Halsted:

First, the axilla is attacked in order to determine the extent of the lymphatic involvement and the feasibility of radical surgery.

Second, the blood vessels are cut and ligated at the origin; *i. e.*, those that supply the breast, minimizing hemorrhage and preventing shock.

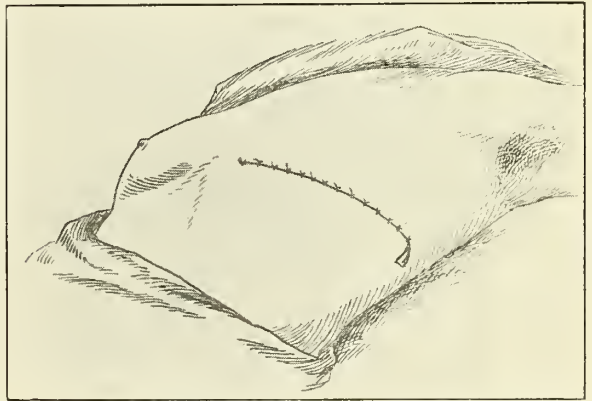


Figure 6—The closed wound with rubber dam drainage, axillary skin forced back into position, easily done when elbow is raised and arm at right angles to the body.

Third, the incision permits free exposure including the subscapularis space which is often neglected. The incision does not run into the arms or through the axilla which would create a contracting scar that interfere with the arm function, plus pressure upon the blood vessels and nerves.

The cosmetic closure of the wound is ideal which means much to the patient. The wound is dressed by a simple gauze dressing and held into position by Z. O. I have never had edema of the arm.

WHY WE DO NOT ELIMINATE MALARIA MORE RAPIDLY.*

J. A. LEPRINCE,
MEMPHIS, TENN.

Sanitarians who are obtaining decidedly satisfactory returns for service rendered and for funds expended in malaria reduction are unitedly of the opinion that salesmanship is an important part of sanitation.

Unfortunately, there are other professional health workers in highly malarial districts who work without a definite and practical program, some of them do not even believe it possible to control malaria economically, and yet these same individuals in a half-hearted sort of way attempt to sell a desire for mosquito and malaria control to the people of the county.

This sort of so-called sanitation is doomed to failure; and is a waste of time and public funds. Neither a health worker nor anybody else can sell something he does not believe in. It has not yet been done because it cannot be done.

A few health officers are really afraid of tackling the serious malaria elimination problem that is the item of greatest sanitary importance to their county, for fear they will make a failure of it. They surely will if they go at it with that attitude. Again, others are apparently of the opinion that other branches of sanitation will appeal more to the general public and affect future appropriations more favorably.

If that is so, why is it that in the past five years of all the new full-time health units created in nine Southern States, 30 percent were formed soon after the first season of successful anti-mosquito work? There is a reason for this that deserves serious consideration.

I have had opportunity to visit many health units and have noticed that among

health workers malaria chills are very much less frequent than "appropriation continuity chills." A combined infection of both types might be worse than fatal. Just as quinine is a specific for new malaria cases so there are remedies for "appropriationitis"—they are forethought, applied common sense, and hard work.

I desire to invite your attention to a statement published eleven years ago:

"Some mosquito-control work has been undertaken which would have been far more successful if those directing the work had spent more time out in the field where the work was thought to be progressing satisfactorily."

When a large portion of the public is decidedly interested in applied sanitation and insists on its continuaton; and where the county officials and potential county officials are constantly kept advised as to what is being done and are asked for suggestions for bettering sanitary activities without affecting appropriations; then the atmospheric conditions become unfavorable to development of "appropriationitis." Mosquito control measures can be planned to bring this condition about. In several cases where this procedure was used the commissioners told the county health officers not to worry for a minute about next year's appropriation as they thought its continuation essential, although shortage of funds made reductions in other county work absolutely necessary.

A great deal of time, worry and expense is wasted each year because we fail to keep the public and public officials advised about what we are doing, why it is being done, and what we are getting for the money expended. Sanitation is (or should be) an investment of public funds, and the public must know what they are getting for their money.

The penalty for lack of keeping them posted and keeping up their interest is "appropriationitis." How long before appropriation time comes around do you begin to worry about this matter?

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

It would be decidedly interesting to determine how many health officer days (or total number of hours) are expended each year in trying to get funds reappropriated or increased, and to ascertain what is the equivalent total money value lost each year in dollars and cents.

In one state there was a county health officer in a county with much malaria who was afraid that if he dared to attack his malaria problem seriously it would be detrimental to him and his work. It actually took seven years of hard work to sell that gentleman the opposite view. He is now the worst type of enthusiast, just as I am, and is directing excellent field work. He is doing it in the field and is not attempting to do it in his office chair.

If malaria is costing the citizens of your county anywhere from one-tenth to one-third of the amount they pay each year as taxes into the county and state treasury, then whose duty and whose business is it to see that these unnecessary additional burdens are reduced.

If malaria is twenty-five percent or more of the total sickness reported by physicians, is it fair and just to the citizens who are supporting the health unit to allow this condition to continue when we know it is preventable? If we do, then we have a health unit in name only, and are not doing effective work.

In this state in a malarious county a remarkable malaria reduction was made through the determination of a part-time county health officer. In a county in another state a sanitary inspector without any support from the county health officer, got fifteen school districts (one-half of the total) competing to see which could accomplish most local malaria reduction. Is there any reason why a full-time health officer cannot do something, why he can't do as well as an inspector? The answer is that they can if they want to do so.

We have more data about malaria prevalence in this state than in any other, but we are not using that information effectively—in a way to better our health status. I do not know how much money will be appropriated by this state, by the counties, or other agencies this year for malarial control, but it would be very interesting for you to find out what return will be forthcoming in malaria reduction for each dollar so appropriated. The enormous reduction of malaria in Yazoo county cost less than six cents per capita per year, and less than four cents per capita per year of county funds.

Suppose you who are devoting your full time to health work should select one-quarter of your county for a similar anti-malaria campaign and go at it with the same spirit that the Yazoo Sanitation Unit attacked its problem, and keep the people of the county fully advised about what is going on, and what is being accomplished. By doing that you could enable them to gather a larger portion of their cotton crop earlier than usual and to leave less in the field. You will be giving them what they are paying for but are not getting where malaria control possibilities are neglected.

In Leflore county the county health officer has shown that the farm tenants in Mississippi can be induced to take better care of tenant shacks by screen protection than occurs at the average home of white farmers.

The health officer of Yazoo county has shown the possibilities of malaria control on a county-wide basis.

We know that Gorgas at Panama with 365 anopheles breeding nights in the year, by having boys destroying mosquitoes in houses in Camp A and not in Camp B had forty-two times as much malaria in Camp B as in Camp A and we cannot claim we have a decided lack of colored children in the farm tenant homes in the Mississippi Valley to do this work.

If we put the title of this paper in an interrogative form before an impartial jury and submit the facts to them, it is possible that their verdict would be—"We do not eliminate malaria more rapidly because we are not really interested in doing so."

If we do not believe in malaria control we should omit it completely from our health program and continue to let the un-gathered cotton rot in the fields. If we do believe in malaria control we can and should eliminate it in the Mississippi Valley much more rapidly than we are now doing.

HEMATURIA.*

P. JORDA KAHLE, M. D.,
NEW ORLEANS.

Hematuria is a symptom, not a disease. Essential hematuria is not a diagnosis. It is an admission of failure to diagnose. Failure to discover the cause, is not a reason for assuming that there is none. The urologist, in spite of his special training, in spite of the instruments of precision at his command, not infrequently fails to discover the cause of a hematuria and he should and must frankly admit it, at the same time advising examinations at intervals as they may lead in time to a diagnosis. Consequently, because it may have been the experience of some of you to fail to have the cause of hematuria diagnosed at one sitting you have no right, in justice to yourselves and especially to the patient, to neglect procedures that are simple, safe and usually painless. The discomfort of an urological examination to determine the source and the cause of hemorrhage is far out-weighed by the risk of overlooking a condition that should have been diagnosed in its incipency.

While most of us recognize the fact, there are, unfortunately, too many, who

through ultra-conservatism, neglect, ignorance, or faith in the efficacy of some favorite prescription, allow the hematuric to drift until his condition is beyond medical or surgical skill. When a hematuria has ceased, following the administration of some "remedy," a serious responsibility is assumed if it is taken for granted that the patient is cured. More generally, the bleeding has ceased in spite of the treatment. There is hardly a day that passes that some surgeon does not see disaster resulting from the pernicious practice of prescribing for hematuria without thorough examination. We are deluding ourselves and doing patients a serious wrong when we assure them that a hematuria, no matter how trivial, is insignificant.

The source of a hematuria may be found anywhere in the genito-urinary tract and its causes are many.

First, from the kidney.

(a) In lesions due to trauma, calculi, varices, pyogenic infections, tuberculosis, syphilis, tumors, infarcts and emboli, sclerosis of the glomeruli and of the renal vessels, displacements, aneurism of the renal artery, thrombosis of the renal vein, acute hemorrhagic nephritis following catheterization or supra-pubic cystotomy, and in glomerulonephritis.

(b) Following the ingestion of certain drugs, such as turpentine, cantharides, arsenic and urotropine; and of certain poisons including such whiskey and alcoholic beverages as are found on the market today.

(c) In acute or chronic diseases, such as smallpox, typhoid, and malaria.

Second, from the ureter because of calculi, tumors, tuberculosis, and inflammations (ureteritis).

Third, from the bladder, because of tumors (benign and malignant), calculi, tuberculosis, pyogenic infections, syphilis, parasites, trauma, foreign bodies, varices and ulcers.

*Read before Orleans Parish Medical Society, June 28, 1926.

Fourth, from conditions of the prostate, such as hypertrophy, carcinoma, and trauma.

Fifth, from the urethra, in urethritis, trauma, growths and varices.

From this formidable list of causes the futility of a guess is apparent. It is not my purpose to discuss the differential diagnosis and treatment of the hematurias, but rather to emphasize the necessity for thorough examination, in order to discover the cause and especially to eliminate a neoplasm as to the causative factor. It might be said, generally, that the less the discomfort, the more the reason for a complete urological examination.

Were the results of guess work and baseless optimism in hematuria followed by no serious consequences, we might be guilty of no more than careless and unscientific methods. Unfortunately, too often the consequences are such that negligence borders on criminality.

These remarks may seem unduly harsh, but if they arouse you to your responsibility to the hematuric, they may be pardoned.

It is not necessary to burden you with the histories of a large number of cases to bring out what I have in mind. A few cases will illustrate the most serious problem with which we have to contend, as a result of failure to examine properly the hematuric. Nine cases seen within a period of two months and two seen shortly after, will suffice. The latter were not operated by me either for palliation or in attempt to cure. There were, of this number, one case of papillary carcinoma of the pelvis of the left kidney, giving a history of hematuria for three years; one case of hypernephroma of the left kidney; seven cases of carcinomata of the bladder; four papillary and three adenocarcinomata, all giving histories of hematuria, varying from eight months to six years; two cases of adenocarcinoma of the prostate, involving the bladder and the internal meatus, giving a history of

hematuria for several months in one case and one year in the other.

One case only, that of the papillary carcinoma of the kidney, had a cystoscopy been done. Unfortunately, this patient had had no pyelogram made. The doctor who had seen him, never during a hemorrhage, assumed that the bleeding was due to a congestion of the bladder. The pyelogram, made almost three years after his initial hematuria, showed a filling defect of the pelvis and the calices and a diagnosis was made of a tumor of the kidney, involving the pelvis. The case of hypernephroma had bladder irrigations and prostatic massage for three months. No cystoscopy was done. The patient had lost forty pounds, was cachetic, and had a large palpable mass the left side. At the time of examination this gave very little promise of relief by surgery or any other mode of treatment.

In the bladder cases, at the time of examination, only two gave promise of good results if operated. One was a small adenocarcinoma of the posterior wall near the fundus, the other, a papillary carcinoma on the right lateral wall near the fundus. In the other five, the condition was inoperable, except for palliation.

One of these cases had been treated for stricture and cystitis; one for carbuncle and cystitis; one for calculi, an X-ray, but no cystoscopic examination having been made. This patient, for the relief of abdominal pain, had had an appendectomy done a few months before the carcinoma was discovered. There was no relief. Two had been treated for cystitis by being given urotropin; while the other had been given prostatic massage for eight months, with no results. He then consulted an osteopath, who treated his spine with a view of curing him of his hemorrhage. One had been irrigated with no attempt made at diagnosis. Except for palliation, the case was inoperable.

In the carcinomata of the prostate, both cases had been given medication for pain and other urinary symptoms, including hemorrhage. Both were seen after the carcinomata had broken down.

Diagnosis and cure are not synonymous, but the early recognition of lesions such as these, offers the only hope for a larger percentage of cures than we now obtain.

In neoplastic diseases of the kidney, the condition may progress for years before extension or metastasis occur, but the prognosis is proportionately better as tumors are recognized and dealt with early.

Malignant tumors of the bladder likewise show great differences in behavior as regards the rapidity of growth and extension and the occurrence of metastases. So in benign tumors, the extent, the size, and the tendency to undergo degeneration, varies. We have seen very small innocent looking papillomata which on histo-pathological examination showed evidence of degeneration. We have seen extensive inoperable carcinomata, with no cachexia, which, from the history of hematuria thirty years before, must have been very slow in their development. In the former, the results have been good, in the latter, discouraging. There is not a surgeon who will not admit of his many failures in the treatment of carcinomata of the bladder, whether by cystectomy, total or partial, by cauterization, by fulgeration, by diathermy, by radium therapy, by deep X-ray therapy, or by a combination of two or more of the above methods.

Compare these indifferent, not to say disappointing results in malignancies, with the brilliant results by simple means in the majority of benign papillomata and there can be no doubt that if an urological examination has done no more than exclude papillomata as the cause of hematuria, much has been accomplished. Hematuria often means papilloma and every papilloma is potentially malignant.

DISCUSSION.

Dr. W. A. Reed: The classification of hematurias as given by Eisendrath of Chicago seems to me to be a very suitable one. He classifies hematurias in three groups: (1) systematic, viz., resulting from scurvy, leukemias, high protein intake in diet and in some of the acute infectious diseases but in this type the degree of hematuria is usually very slight. (2) from conditions involving organs adjacent to the genito-urinary tract, such as appendicitis and inflammations of the female genitalia. (3) This group includes the large majority (66%) of all cases of hematuria. They are divided equally between the upper and lower genito-urinary tract. So you see that we have more than 50% of all hematurias due to or resulting from conditions in the genito-urinary tract per se, and not from systemic disease. Therefore, it is necessary to make a complete urologic and cystoscopic examination before one can make a reasonable diagnosis. One of the most potent factors I know of in causing us to realize the necessity of making these examinations in hematuria is the results of Casper's work, who made observations on 15 cases of hematuria immediately after the first attack of bleeding. In this group he included only cases of tumor of the bladder. In all but three he found the tumors small and amenable to treatment, and was able to destroy them at that time. Usually cases, when they first come to us, are of 6 months to 6 years standing, when they have reached the point where nothing can be done. The sooner we get to these growths with the treatment we have at our command the greater will be our number of cures. In 541 cases, tabulated by Garaghty, the first symptom seen was hematuria in 75% of the cases. That was the only symptom; there was no frequency or pain. Frequency and pain occur, only late in the disease. These cases should not be treated with drugs; they should be examined by means of the cystoscope, and as early as possible, so that something can be done before the case has become incurable.

Dr. A. Mattes: I think the paper presented by Dr. Kahle is a rather timely one and is of extreme importance. We are seeing cases of hematuria from the urological standpoint right along. The time to cystoscope a case is while it is bleeding. Whether we find the cause or not it is necessary to get in touch with a urologist or competent cystoscopist associated with an X-ray man in order that proper interpretation can be made and a report given on the causation of any case of hematuria. Occasionally the diagnosis is a nephritis that falls in the province of the medical man. A competent urologist should

be consulted in every case where blood is found present in the urine.

Dr. Frank Chalaron: Anyone who has done a little urology gets acquainted with the class of cases giving a history of hematuria of years duration, and which, on cystoscopic examination, are found hopeless; cases for which something might have been done. I do not say that of all cases of hematuria (I except those where the cause of the hematuria comes directly from the urethra, where the first urine is bloody and the second clear)—but all others require cystoscopic examination for differential diagnosis. Small papillomas may not be found, except when bleeding. The time for cystoscopic examination is when the hematuria is present. I have gone in one day after the hematuria had ceased and only with the greatest difficulty and much scrutiny was it found. I have, on the other hand, found a minute papilloma by following the blood stream.

Dr. Jamison: Does the doctor mean macroscopic or microscopic blood?

Dr. Kahle (closing): In answer to Dr. Jamison I would say that I really had in mind macroscopic blood or gross hematuria, although microscopic blood would be sufficient evidence for further investigation.

In answer to the discussion there is little that I could add without going into endless details but what I had in mind, was the making of a diagnosis, if possible, in all cases of gross hematuria with a view of eliminating tumors of the bladder and of the kidney.

In the two cases of renal tumor mentioned here both had been seen by a urologist but both were ultra-conservative.

In the first, the case of tumor of the pelvis and of the calices, the patient had been cystoscoped and although bleeding for 3 years had had no pyelogram made.

In the other case, that of a hypernephroma, the patient had been seen by a urologist but no cystoscopy had been done as it was assumed that the hematuria was due to a prostatitis.

I feel sure that a diagnosis in both cases would have been made had not the urologist been too conservative.

It is interesting to mention in connection with the carcinoma of the pelvis and of the calices that Dr. Lanford made a diagnosis of carcinoma from a study of the cells from the centrifuged urine. The diagnosis was confirmed by the pyelogram as well as by operation.

With reference to Dr. Chalaron's discussion, it is rather unusual to have a tumor of the bladder causing a gross hematuria which cannot be discovered except during hemorrhage.

ATYPICAL GLAUCOMA.*

JAMES B. STANFORD, M. D.,

MEMPHIS, TENN.

The last word has been said on very few medical subjects and certainly much has yet to be learned about many diseases which confront us. Medical men have been criticised for extreme individualism, but it is this very characteristic which has advanced medicine to its present position. It is necessary for all of us to study diligently and to commune much with our fellows in practice so that we may keep abreast of modern thought, but we must not become hidebound in our ideas of diseases and their treatment. We must learn to consider medical subjects with somewhat of an attitude of detachment so as to get perspective and thus bring our own intellects into use. It would be gross ingratitude for the writer to disparage the efforts of our leaders and predecessors in ophthalmology, but if we consider that their beliefs and practices are final we soon find ourselves mentally stagnated.

A study of the average text book on ophthalmology would lead one to believe that the diagnosis of glaucoma is a matter of the greatest simplicity. They speak glibly of the dilated veins, shallow anterior chamber, dilated pupil, narrow iris angle, excavated disk, increased tension, arterial and venous pulsation, contracted fields, halos and so forth. That the belief is quite general, that glaucoma is easy of diagnosis was shown a few days ago when a confrere in general practice called the author on long-distance telephone to ask how to diagnose such a case. The writer smiled as he told the doctor the cardinal symptoms, be-

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

cause he was thinking of the difficulty he might have if the patient were before him. It is the belief of the writer that the typical text-book case of glaucoma is the exception rather than the rule—this applies especially to the simple type.

As the author gets older in the practice of ophthalmology he not only sees more cases of glaucoma but the percentage of such cases increases. There is no reason to believe that the disease is more prevalent than formerly, so he is forced to the conclusion that in the past he has made some erroneous diagnoses. This doubtless resulted in great harm to some of the patients or added to the laurels of his more astute confreres.

Certainly it is not to be expected that each case of glaucoma will present all the diagnostic points of the disease but it has been the experience of the writer that many patients show so few of these points as to make the diagnosis quite difficult. It is necessary in some cases to delay treatment a number of days for careful study. Of course, those cases which suffer from delay are in such condition as to be comparatively easy of diagnosis and thus do not require long study.

A careful history is most valuable in the diagnosis of glaucoma as in other pathological conditions, but the inability of some patients to express themselves clearly and the natural stupidity of others necessitates the exercise of much care and patience in history taking. The author had one patient who came to the office complaining that she was gradually losing her visual acuity, that she saw colored rings around the light, that her eyes had a full, heavy feeling and that her visual fields were contracting. When she concluded her recital there he was surprised, for he had expected her to proceed with the statement that she had simple glaucoma. It would probably be necessary to practice several life times to discover another such patient. The rule

is that valuable data are gathered only by careful questioning.

Perhaps we may profit by a discussion of some of the principal features of glaucoma.

Glaucoma has been defined as a disease of the eye having as its essential feature an increase in intraocular tension. This would seem to preclude the possibility of the disease without an increase of tension, but we have all seen cases which were undoubtedly simple glaucoma in which we were unable to demonstrate an increase in intraocular tension. When this is the case tonometric readings should be made repeatedly with the same instrument and these compared with the readings from the fellow eye. It is in these cases that we have least to fear from delay and consequently more time for study.

It should be borne in mind that the tension in normal eyes varies widely. Observers have placed the normal all the way from 12 to 30 mm. of mercury as measured by the Shiotz tonometer. The author thinks that a safe range is from 15 to 26 mm. of mercury, and that tension higher than that should be looked upon with suspicion.

One must depend entirely on one's fingers for the determination of ocular tension in cases of abnormally shaped eyes because of the fact that the bases of all tonometers are made to conform to the normal corneal curvature. This is unfortunate since most of us learn to distrust digital findings when we have compared them with tonometric reading for some time.

Any junior medical student can tell us that in glaucoma, simple or acute, the pupil is dilated, and as a matter of fact that is usually the case. However, in January of this year the writer made these notes on a patient's record as he made the customary external examination in good daylight—pupils small, equal and react to light. This man's vision was OD=pl OS=

20/50, his tension taken with the Gradle-Shiotz tonometer was 66 mm. of mercury in each eye.

Our medical student will also inform us correctly that the anterior chamber is shallow in glaucoma, but in many cases if we wait until this is demonstrable we will have sacrificed much vision which could have been saved by early treatment. I grant that means are available for the accurate measurement of the depth of the anterior chamber but the apparatus necessary is not in the hands of many competent ophthalmologists. The question of depth of the anterior chamber is especially difficult if there is no difference in the two eyes. Incidentally the cause of this shallowness of the anterior chamber influences our selection of an operation for reduction of tension.

Dilated episcleral veins are apt to be present in simple glaucoma, but they may be absent; and they are also apt to be noticed in non-glaucomatous eyes.

Cataract in an eye suspected of having glaucoma is always a matter for careful consideration, as it may be caused by glaucoma, may be the cause of glaucoma or may be a senile cataract which simply happens to be present in the eye in question. In any case, the lens opacity will cloud the issue, if a pun be permissible, and make our diagnosis more difficult. If acute glaucoma occur in a cataractous eye one is always apprehensive of an intraocular tumor and is quite guarded in prognosis.

When a wide deep excavation of the disk is present we are never at a loss, but if we wait for that sign to appear the patient has suffered irreparable loss of vision. This condition is usually absent early in the disease and it is then that we most need help in diagnosis. Pallor of the disk should always be suspected as a sign of early glaucoma, but the differentiation from beginning atrophy is not easy.

Our text books tell us that glaucoma is a disease largely of middle and late life, but the literature is full of cases of glaucoma in young individuals. These are not cases of buphthalmos, but well defined examples of glaucoma simplex. In the writer's experience these cases of glaucoma in young persons have been largely confined to the negro race.

In some cases of glaucoma, particularly in those cases which after examination might be diagnosed as sub-acute exacerbations, we should look for signs of uveitis. Realization that we have done an iridectomy for glaucoma secondary to iridocyclitis is cause for much chagrin. These are cases which require much study, and much courage is needed to use atropin in an eye which exhibits a definite increase in tension.

All cases which require the use of mydriatic drugs over a long period should be watched carefully for symptoms of glaucoma. It is not infrequent in dispensary practice to have a child suffering from interstitial keratitis return to the clinic after a few weeks absence with well established glaucoma.

Arterial and venous pulsation have been the exception rather than the rule in the observation of the writer.

It is not the object of this little paper to make a difficult subject appear more difficult, but rather to emphasize the fact that in early glaucoma many diagnostic points are not present. It is in these early cases that most is to be gained by treatment and therefore all possible means of diagnosis must be utilized. In case of doubt glaucoma should be suspected and treatment should be delayed until doubt no longer exists. In these early cases the history must be carefully considered, the anterior segment of each eye should be studied and compared, the refraction should be determined, loss of accommodation and the change of latent into manifest hyperopia should be investigated, the diameter of the cornea should be determined, the condition of the

media should be examined, the fundi, and especially the disk must receive careful scrutiny, tension must be taken, perhaps repeatedly, and perimetry of the whole field and of the center must be carefully done.

Perhaps we are most misled by the text books in the matter of treatment. One would gather that iridectomy in acute glaucoma and myotics in glaucoma simplex would cure most cases and that the remainder could be well handled by one of the many decompression operations. As a matter of fact the very multiplicity of operations is proof that none of them is satisfactory. The writer agrees with the oculist who said that he was not sure that myotics ever cured a case of glaucoma but he *was* sure that they had prevented many cures.

When a patient is treated with eserine or pilocarpin he should report for observation at least once a month. At these times his visual acuity should be noted, his field should be recorded and his tension should be taken. Many of these individuals after a few such visits will consider that they are wasting time and money, but if they neglect these periodic examinations they will, without exception, return after some months with reduced vision and contracted fields that nothing will restore.

Where sufficient material is available a young oculist should treat a series of cases according to each of the procedures which have proved to be most successful. Thus he may determine which of these procedures is most valuable in his hands, and he may confine his attention to two or three operations which are to be used as the case in question demands.

DISCUSSION.

Doctor H. L. Arnold: Mr. Chairman, this is to me a very interesting paper, and there are some things about glaucoma I don't know whether we will ever know. There is nothing, I think, in the ophthalmology more difficult to make than a diagnosis in these early cases of glaucoma. As

the doctor says, in these early cases we don't have all these signs, and we all see these cases, and we are in doubt. But the saddest thing to me has been the number of cases which I have seen which have been almost totally, and some of them totally, blind, from the fact that they had been told they had cataracts, and they waited until they got blind so they would be ready for operation. It has been my misfortune in the last year to see probably six or eight cases with perfectly clear eyes in which any man could have told at a glance that the patient had glaucoma. Some had been fitted by optometrists, until they had lost their sight, and when they got so they couldn't make them see anything, they would tell them to see a doctor. I think in glaucoma that we really should educate not only the public, but should educate the profession, the general doctors, to have these patients consult an oculist as soon as possible—there is one thing about it, they so often preserve their central vision, and these patients have so often lost all but their central vision before they realize that their sight is gone. There is nothing that will require closer study, I think, than these cases of glaucoma. As to the treatment, I have been very much in doubt as to whether we should try to treat these cases of simple glaucoma medically, or whether they should be operated on. My experience has not been wide enough to express an opinion worth anything. I have used the trephine some, and have had very good results with the cases on which I have used it.

Doctor L. S. Gaudet: Mr. Chairman and gentlemen: While Doctor Stanford was reading his paper, I made a note of several things. First of all, insofar as taking the tension—we see so many cases of glaucoma in one eye. For that reason, I believe we ought never to take tension until we take the tension in both eyes, regardless of whether we think there is a glaucoma in one eye or two; but above all things I think it is a bad policy to take tension of only one eye. The same thing with the field of vision. Two years ago at the Southern Medical Association, Doctor Martin, of Georgia, I think, read a very interesting paper on toxic uveitis. He gave us the field of vision in one eye only. To my mind, that field of vision is worth nothing taken in one eye if you didn't have the other eye to judge by. You couldn't judge of the field of vision in a single eye. Those are the two things that ought to be done in both eyes.

Again, we have very indefinite symptoms in glaucoma. Most of the time we see these patients complaining of lowered vision, and it takes quite a great deal of time and study, more so than patients are willing to give you, to go over those cases to be able to come to a definite conclusion.

The next thing, insofar as periodic examinations, that is one of the hardest things I have found my patients to be willing to do. I have cases now who will go three, and four, and five months, because they are feeling good, or for some other reason and not come back to us. I even like to make periodic examinations, not once a month, but every two weeks. I think your sight is worth that. The great trouble is in simple glaucoma we have an insidious condition, the condition in which the outer fields of vision go first, and you have your central field of vision, and that is what your patient depends on, and it is unfortunate, as he said, in many cases we do not get them earlier. I think the doctor gave us a very interesting paper.

Dr. Stanford (closing): Perhaps the title of this paper was a little misleading. It should have been called "Diagnosis of Glaucoma"; but such a title for a ten-minute paper might appear presumptuous. Doctor Arnold spoke of acute glaucoma. There is no question in my mind as to the proper procedure in acute glaucoma, and that is operative. Personally, I prefer simple iridectomy. In some cases treatment might be used for perhaps twenty-four hours to reduce the tension as much as possible and give us a better opportunity to get satisfactory results from operation, but I don't think any case of acute glaucoma ought to be treated longer than forty-eight hours without operation.

Doctor Gaudet spoke of taking the tension in both eyes. The tension should be taken, not only once, but repeatedly, in both eyes, and these findings compared. I thank you.

INDUSTRIAL OPHTHALMOLOGY.*

CHAS. A. BAHN, M. D.,

Professor of Ophthalmology, Postgraduate Department, Tulane University,

NEW ORLEANS.

Through industrial accidents, about fifteen thousand eyes are lost yearly in the United States. This number could be greatly reduced if we of the medical profession would to a greater extent interest ourselves, employers, and employees, in the practical study of accident prevention and treatment. No one wants these accidents to occur, yet few are sufficiently interested

thoroughly to understand why they occur and actually to prevent them. Those most directly interested do not seem to understand that for the most part, industrial accidents represent a huge and useless expense of time, money and suffering.

The first step of prevention consists in a realization that accidents are costly to all concerned, which if understood meant that employers and employees would take a pride in their reduction and investigate each injury to prevent its recurrence. This alone would probably directly and indirectly reduce industrial injuries by one-third. Liability to injury can be minimized through industrial cleanliness, proper illumination, and by the installation and maintenance of safety devices, as well as consistent use of protective glasses on those exposed to eye injuries. Persons with ocular handicaps should not be permitted to work where there will be excessive industrial risks and where only serious injury to themselves or those about them is sooner or later sure to occur. For example, a person with only one seeing eye should not be employed where moving objects quickly approach from the blind side, because with a contracted or absent visual field, one could probably not get out of the way quickly enough to avoid injury. Neither should such a person work where accurate distance estimation is necessary to bodily safety, because those with only one seeing eye cannot usually judge distances accurately and therefore should avoid ladders, bridges, tressels, etc., where a mis-step might be serious. A person with only one seeing eye should not operate moving machinery such as an automobile, etc., especially if exposed to dust, smoke or foreign bodies; because momentary blindness in one's only seeing eye under such conditions will probably cause serious injury to the individual or those about him. Only recently we saw a patient who narrowly escaped drowning because he did not know that especially when tired, a one

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eyed person cannot accurately estimate distances, with the result that he stepped over the side of a boat into the Mississippi River. Several instances have come under my observation in which automobile accidents have occurred when the driver got dust in the only seeing eye. Those with over-sensitive eyes, having trachoma, etc., should not be permitted to work where there is dust, wind, or smoke, which will cause excessive pain, loss of time, and possibly permanent injury. No one should be permitted to work where success is practically impossible because of physical handicaps. Lastly, those with injured eyes should be given immediate and efficient treatment. Infection, especially of the cornea, is frequently seen resulting from the misguided and unclean attempts of fellow workmen to remove ocular foreign bodies.

One is surprised how much can be accomplished in preventing industrial accidents and minimizing disabilities. I have in mind the greatly decreased number of ocular accidents that have occurred in one industrial corporation which now examines prospective employees to determine their ocular fitness and which maintains an interest and pride in accident prevention and which offers every facility to avoid injury and the best medical attention to the injured.

In the lids, superficial, lacerated and contused wounds usually require only cleanliness, and approximation with the removal of foreign material and occasional administration of tetanus antitoxin. Tincture of iodine or 2% mercurochrome applications may be used, of course avoiding the conjunctiva. In a warm climate bandages covering the lids and eyes should be discontinued as soon as possible. Incised wounds should usually be sutured immediately, especially where the lid rim is involved. If sutures can possibly come in contact with the eye ball, silk is preferable. Heat burns of the lids may be successfully treated either with amberine or a 10% magnesium sulphate

solution application. Blood or air under the lids following severe injuries, is suggestive of skull fracture. Acid burns of the lids are probably best treated by hourly irrigation with baking soda solution, one-half teaspoon to the quart; while alkali burns are similarly treated with a sugar solution, one teaspoon of ordinary granulated sugar to the quart of water, this forming an inert saccharate. The intramuscular injection of foreign protein, preferably five to ten cc.'s of skimmed milk boiled five minutes, given every three or four days during two weeks is an experimental method apparently justified to minimize in severe lid or other ocular injuries.

In the conjunctiva, wounds should be, generally speaking, promptly sutured and even the finest foreign bodies removed to prevent delayed healing. The painless removal of foreign bodies is facilitated by the installation of a 2% butyn or 4% cocain solution. Cocain solutions should never be given a patient for home use. The lids should always be everted where foreign bodies are possible, especially in lime burns, because hard substances tend to collect and remain the sulcus sub-tarsalis.. Alkali and acid burns are treated with hourly irrigations of baking soda or sugar water as previously mentioned, in addition to which the eye ball should be protected with a non-irritating ointment. Vaseline is preferable to castor oil which may become rancid and irritating. The addition of bichloride 1-3000 and holocain 1% or butyn 1% to vaseline and the use of probed pointed tubes are suggested. Heat burns are best treated with any non-irritating irrigation followed by the use of vaseline. Electric burns are often very painful especially after twelve to twenty-four hours and associated with extreme sensitiveness to light. The use of cold non-irritating irrigations hourly and dark protective glasses is sufficient in mild cases, but the use of atropine and sedatives such as codein, etc., is sometimes necessary. Our treatment of the simpler corneal foreign bodies comprises 2% butyn anes-

thesia, speculum lid fixation, complete removal of the foreign body with as little corneal damage as possible, irrigation with any clean non-irritating solution, installation of 1% novocain, 5% orthoform, and 1% balsam of peru ointment, closure of the eye with an adhesive dressing and instruction to keep both eyes closed as much as possible for one day, then to return if the eye is painful or blurred. Rust stains which delay healing can usually be easily removed by scraping or by chemical cauterization with iodine or alcohol. For removing ocular foreign bodies an instrument I have perfected may be used. It is made of rustless steel to facilitate sterilization, and has a cutting point on one side, a scraping edge on the other and being used entirely from the side, danger of perforation is minimized.

In the removal of deeper corneal foreign bodies; increased illumination, magnification, dexterity and judgment come into play. Although difficult, removal by the aid of the corneal microscope, under a magnification of about twenty diameters, is sometimes advisable. Under no circumstances must foreign bodies, even though microscopic, be left behind because they always cause delayed healing. It is sometimes easier and safer to enlarge the corneal wound at one sitting and later remove the foreign body, if deeply imbedded, within twenty-four hours. Occasionally corneal foreign bodies associated with perforated wounds, are best removed through the anterior chamber by enlargement of the original wound but usually preferably by a Keratome incision generally at the lower limbus.

Superficial corneal abrasions are best treated with a non-irritating irrigation, the installation of a blind slightly anesthetic ointment, adhesive dressing and closure of both eyes for about a day. Pain which results from irritation of sensory nerve filaments is thus minimized. It is impossible to keep one eye immobile with the other eye open.

Deep corneal wounds often necessitate the use of atropine which in industrial ophthalmology is frequently abused. Disabilities are often increased by its injudicious use and I have repeatedly seen eyes lost apparently through the continued employment of atropine which produced an incurable secondary glaucoma. Delayed healing is especially frequent in this type of injury and is practically always due to foreign matter in the wound, to outside infection or from infection from disease elsewhere in the body. Outside infection is most frequently pneumococcal and usually demands early cauterization, chemical or thermal. Personally I believe that the latter is more efficacious because its effect can be more accurately regulated and because it does not poison the surrounding tissues. Chauffage is best used only in the very mildest cases, or valuable time and possible eyes will be unnecessarily lost. Optochine, powdered calomel, and milk injections are accessories which should practically always be used.

Perforating corneal wounds of course demand removal of foreign matter, excision of iris prolapse, corneal suture, and the application of a conjunctival flap. During this operation, it is especially important that lid spasm be prevented, if necessary by akenesis or canthotomy. Anesthesia by means of 10m. of a 2% novocain injected back of the eye ball and as near the upper temporal apex of the orbit as possible, is advisable if vitreous loss is not thus precipitated.

Infected perforating or non-perforating corneal wounds should never be bandaged nor should any other injured eye in which there is a purulent discharge.

The principles of treatment following corneal electric, heat, and chemical burns, both acid and alkaline, is practically that mentioned for conjunctival burns except that atropine, very dark glasses, and sedatives are more frequently necessary.

Perforating and non-perforating wounds of the sclera are best treated like those of the cornea though the increased possibilities of intra-ocular infection, vitreous loss, uveal prolapse, lens dislocation and opacities, vitreous hemorrhage and sympathetic ophthalmia make these injuries especially fatal to sight.

Lens opacities following injury may include dislocation, perforation, or concussion. Lens dislocation is much more frequent than commonly thought. Every severe blunt injury of the eye can be accompanied by a dislocated lens which is recognized by pupillary eccentricity or partial immobility and by unusual depth of the anterior chamber. These symptoms should always be noted that the injured may later have a reasonable chance to obtain the compensation due him. Traumatic cataract only develops often in from six months to two years often after an apparently slight injury following which vision was but little impaired. The advisability and technique of traumatic cataract removal unfortunately cannot be discussed because of limited time. Excessive operative trauma must never be forgotten especially in industrial surgery. I have repeatedly seen eyes apparently lost because the operator did not have a preconceived plan of what had to be done and because he did not know when to stop.

The Giant Magnet has in my hands been the means of saving quite a few eyes notwithstanding that the visual results at the end of six months are less dramatic than the actual removal of the foreign body. Foreign bodies in the orbit, unless irritating, are usually best left alone, as also occasionally are non-irritating foreign bodies so imbedded in the posterior eye that the trauma necessary in removal, is sure to immediately destroy all vision which would otherwise possibly be retained for at least several years.

Of course the sooner totally blind painful eyes are removed the better. Some-

times, however, it is extremely difficult to foretell the ultimate visual loss, immediately after an injury. I have in mind a patient who, following a severe ocular injury, fortunately refused the advice of several excellent ophthalmologists to have an eye removed. His later vision improved to about 20/70 with glasses and his other eye was subsequently lost. After a severe intra-ocular infection following perforating injury, the patient has two courses of action. The first is prompt enucleation which means immediate relief from pain and possible resumption of work within one week. The other is more palliative treatment with possible evisceration and continuance of pain indefinitely. The justification of an enucleation in the midst of a panophthalmitis might be difficult if a meningitis developed shortly afterwards. It is well to have a physical examination including urinalysis made before any industrial operation involving the eye ball in order to forestall any possible general complication, as illustrated in the case of a patient who died of acute nephritis two days after an enucleation. The technique of an enucleation is of little importance if the orbital tissues are not traumatized because here every cut means a scar and every scar means a worse fitting artificial eye. Among other things, the world war taught us that suturing of the conjunctiva, Tenons capsule, the extra ocular muscles is of little practical importance if the orbital contents are not mutilated.

The prompt recognition of posterior surface, corneal opacities, aqueous turbidity, iris nodules, marked thickening, and synechia, which form part of the early objective findings of sympathetic ophthalmia, is greatly facilitated by the corneal microscope. I have seen but one unquestioned case in six years, but that was enough because total blindness followed. Recently we attended a patient on whom enucleation was advised because of threatening sympathetic ophthalmia, in which the symptoms were entirely due to very small imbedded

foreign bodies in the cornea of the supposedly sympathizing eye.

In choroidal ruptures and optic nerve avulsions, but little can be done except to note carefully all objective evidence, to facilitate equitable disability estimations.

Delayed healing of ocular injuries caused by sickness elsewhere in the body often presents a difficult problem. The injured naturally feels that if the ocular accident had not occurred, that there would have been no involvement from sickness elsewhere in the body, while employers and compensation companies hardly feel responsible for conditions caused by general sickness such as lues, tuberculosis, or focal infections. Where the ocular injury is proven and ocular evidence of general sickness appears with reasonable promptness, it is usually to the employer's advantage to give the injured any general treatment necessary to facilitate ocular recovery and to have any necessary bodily examinations made to determine the existing general sickness responsible for the probable increased temporary and permanent ocular disability. The time to minimize delayed healing is when it begins and not when the eye is so saturated with toxins that healing is impossible for months even though all causes be removed.

Unfortunately most employers have not realized that the physical examination of prospective employees under ordinary circumstances is a profitable investment. I believe that courts of law hold that where an employer does not examine a prospective employee that the employee is assumed to be physically fit, so far as industrial injuries are concerned.

Unfortunately there are a small number of persons who try to take an unfair advantage of industrial injuries either by evading just payment to the injured or by claiming compensation unfairly. This usually involves an ocular complication of a general disease not cause nor aggra-

vated by industrial injury, a previous injury or disease claimed to be recent, the exaggeration or other misrepresentation of an injury sometimes received while industrially employed. Here one must take nothing for granted. Subjective symptoms must be verified by objective findings to facilitate justice to all concerned.

The ophthalmologist who expects to take up this field of effort should realize that he is judged in every case by the duration of temporary disability, the amount of permanent disability, the number of visits, and character of reports rendered, which incidentally are potentially all court records. Unfortunately attempts to take advantage of industrial insurance companies by physicians either through useless visits and extortionate charges or the bolstering of unfair claims, have justly made them conservative in their dealing with strange physicians.

The equitable estimation of partial ocular disabilities of transferring lost vision into dollars and cents sometimes becomes complicated. The several methods now in use will probably be very shortly superseded by that recommended in the report of the American Medical Association committee on "Compensation for Eye Injuries," approved by the House of Delegates in 1925, which is the best single plan thus far devised.

It is based on the co-ordination of the central visual acuity, the visual field and the muscle function. The numerical factor representing the central visual acuity is obtained by adding the distance and near factors as measured on the Snellen Scale, the near factor being multiplied by two. See table one and chart one of the committee's report in the proceedings of the ophthalmological section for 1925. Thus, if a person corrected with glasses has a vision of 20/100 in the injured eye, this being rated at 49% visual efficiency, and with glasses 14/42 for near, this representing a

70% visual efficiency, the central visual efficiency is $49 + \frac{(70 \times 2)}{3} = 63$ central

visual acuity factor. Correcting glasses must not exceed four dioptors spherical difference for the two eyes and illumination of test chart must vary between three and six foot candles.

The visual field must be determined with a one degree white target under a minimum illumination of three foot candles and charted against the committees "Industrial Visual Field Chart."

The third factor or muscle function is measured in all cardinal directions by the ordinary methods of testing double vision, such as the prism test, Maddox Rod test, etc., and charted against the committees "Table II."

Thus the industrial efficiency for the injured eye is the result of the three factors multiplied by each other. Thus, if the central visual factor is 20, the field factor is 60, and the muscle function factor is 100, the total visual efficiency of the injured eye is .24% of a perfect functioning eye.

Should it be desirable to obtain the industrial efficiency of the individual, assuming that the one eye is normal, the normal eye is given a three fold value, that is multiplied by three and added to the other eye, the whole being divided by four. Thus, assuming that the efficiency of one eye is 50% and of the other eye 100%

$$\frac{(50 \times 1) + (100 \times 3)}{4} = 87.5\%$$

In other words, the individual is supposedly 12.5% disabled because he has defective sight in one eye which represents a loss of 50% of that eye.

The difficulties which this method presents are that in all cases there are four variable factors, distant vision, near vision, visual field, and muscle function which must be accurately understood which necessitates verification by different methods, all

of which require time, patience and experience. I do not believe it is possible for one to examine a moderately complicated case, assuming that the patient really wishes to co-operate and has made moderate intelligence by one thoroughly familiar with industrial work and with this system of rating in less than five hours of continuous work. Thus, the estimation of ocular disabilities becomes more expensive and complicated. Whether or not this is necessary remains to be seen.

DISCUSSION.

Dr. T. E. Wright (Monroe): Nothing gives me more pleasure than to listen to the paper of a specialist when he doesn't go over the head of the average doctor. Unfortunately, some specialists are so scientific that the average paper might as well be written in Greek so far as the average doctor is concerned. The author of this paper has been very characteristic, as he usually is, in making his paper extremely practical and bringing it down to the basis of the average doctor who has to deal, whether he wants to or not, with a great many eye injuries and the results.

I am particularly pleased to have this opportunity to congratulate him on this particular phase of his paper, and it is my intention, when the paper is printed, to keep it in hand for reference for immediate service in usual eye injuries coming to my office.

Dr. J. J. Bennett (Ruston): I haven't anything to add to Dr. Bahn's able paper except to emphasize one thing which he touched upon and that is this, which of course is really a legal aspect and still we as physicians and the employers should understand it, that regardless of the fact that the injured employe may have syphilis or tuberculosis, if a very trifling injury results in a manifestation of this syphilis and the loss of the eye, the employing company is responsible in the courts for the loss of that eye. This as I say is a legal aspect but it is important for us as physicians to recognize it and also for the company for whom the individual is working.

Dr. H. Dickson Bruns (New Orleans): The paper I think is going to be of value to the general practitioner to consult when he has injuries that are slightly beyond the average run of those he usually sees.

Two points in the paper I think ought to be emphasized. All doctors should keep on their minds the horrible mortality in our country from

automobiles. People are allowed to take a machine weighing one ton or more and rush it at a speed of twenty-five or thirty or forty miles down a highway or street, and most of those people have never received any examination of any kind whatever and then we are surprised that thousands of people are killed and injured in a year by machines.

The other point that I think every man who is a doctor and has to see an injured eye every now and then ought to bear in mind is, don't use atropine if you can't estimate tension with your fingers. If you don't know whether an eye is normal in its tension to the touch then don't put atropine in it, because every now and then you commit an eye murder if you do. You bring on acute glaucoma and the eye is lost.

Dr. Bahn (in closing): Generally speaking, employers are realizing more and more that it is neither profitable nor desirable to employ those unnecessarily liable to injury or disease. Employers have a right reasonably to examine prospective employees to determine their mental and physical fitness for any given position, and if this is not done the assumption is that the employee is in reasonably good health and is not excessively liable to injury.

It is important that the general physician understands the fundamentals and risks involved in the treatment of eye emergencies in order to render efficient first aid and to afford the injured the greatest chance of recovery.

INTRACRANIAL HAEMORRHAGE OF THE NEWLY BORN.

CHARLES J. BLOOM, M. D.,

NEW ORLEANS.

Although one hundred years have elapsed since spastic paralysis was first associated with intracranial haemorrhage of the newly born, strange to relate, but scant literature can be found pertinent to this subject prior to 1912.

Incorrect diagnoses of early symptoms and the absence of observation on spinal punctures of the newly born, may have been in a way partially responsible for the apparent lack of interest on this seemingly important subject.

At last the pendulum has swung—medical literature now abounds with articles from various aspects, including both the primary and the resultant clinical manifestations. The medical profession as a whole is intensely concerned, so that we are assured in the near future of concerted efforts. With early recognition and immediate treatment, gratifying results will be noted, and the many unfortunates now inmates of institutions of the feeble-minded, cripple and insane—will be reduced to a minimum.

From 1826 to 1835, Denis, Billard and Cruveilhier published papers of extreme interest, suggesting the casual relationship of intracranial hemorrhage at birth and the later cerebral spastic paralysis. Weber, Virchow (1852) discussed cerebral palsies from the anatomic point of view. Little (1843) stated in his first monograph that spastic paralysis was due to lack of development of the cerebral tissues and meningitis inflammatory process, and cerebral palsies associated with trauma of the brain are mentioned rather casually. But in 1862 he changed his opinion after many post-mortem examinations and attributed 75% of the cases of cerebral spastic paralysis to an intracranial hemorrhage at the time of birth.

West, in his text of 1850, remarks that "Cerebral hemorrhage in childhood is oftenest met with immediately after birth; and no circumstances can be imagined more favorable to its occurrence than those which then concur to produce it. The tumid scalp and livid face of many a still-born infant point to one of its most important causes, since they are but a measure of that extreme congestion of the vessels within the skull, that has at length ended in a fatal effusion of blood upon the surface of the brain.

There would be reason to fear that this occurrence had taken place, if an infant, when born, were to present great lividity of the surface, and especially of the face; and if the heart were to beat feebly and at

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

long intervals, although the pulsations of the cord were slow and faint or had altogether ceased. Under these circumstances death sometimes takes place without any effort at respiration being made, but at other times the child breathes irregularly, imperfectly and at long intervals. The hands are generally clenched and spasmodic twitchings are of frequent occurrence about the face, or these twitchings are more general, and more severe, and almost amount to an attack of convulsions. The symptoms, however, are by no means uniform, and probably are in some degree modified by variations in the seat as well as in the quantity of the effusion, for it sometimes happens, even in cases where a very large quantity of blood has been poured into the arachnoid cavity, that the breathing is little or not at all disturbed, and that after living for a few hours in a state of weakness and torpor with chilliness of the whole surface, the child dies without any sign of convulsion."

Kundrat (1890) discusses the pathologic anatomy of these subdural hematomas, and Finckelstein in 1902 and Seitz in 1907 and Beneke (1910) contributed many interesting deductions regarding birth, trauma, symptomatology, brain hemorrhage and lacerations of the tentorium.

Seitz, 1912; Leclercq and Paput, 1913; Green, 1914; Brady, 1918; Warwick, 1919; Foote and Sidbury, 1920; Vaglio, 1921; Ehrenfest, Munro & Eustis, Schwartz, Henkel, 1922; Ehrenfest, Sharp, Dietrich, 1923; Brady, Foote, Saenger, Sharp and Maclaire, 1924; Foote, Sharp and Maclaire, 1925,—have made the most valuable contributions on the various phases of the subject.

THE FREQUENCY OF CEREBRAL HAEMORRHAGE.

Pott, (1911) summarizes his one hundred and one (101) autopsies with fourteen tentorial injuries that "some residue of intracranial hemorrhage can be discovered in a considerable number of the children coming to post-mortem up to the age of 6

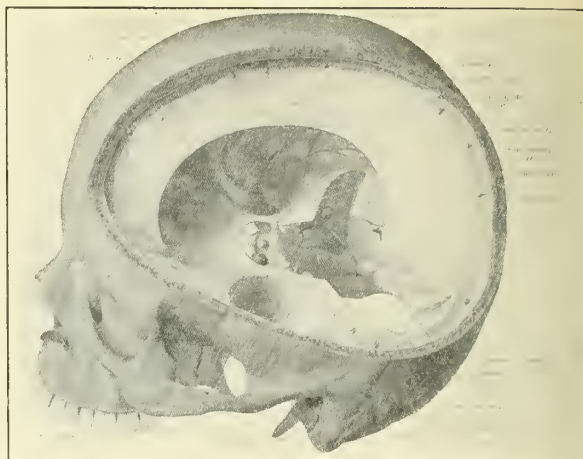


Figure No. 1—Cross section of skull (illustrating the bony surfaces and blood vessels involved in the injuries of intracranial haemorrhage of the newly-born.)

months, proving the percentage of tentorial tears must be very great."

Bauereisen (1912) reports in six hundred and sixty-seven (667) autopsies eleven (11) tentorial injuries, all of which were operative cases. Forty-seven (47) still births, or infants dying a short time after birth, are included.

Benthin (1912) in one thousand two hundred and thirty-nine (1,239) consecutive labors, noted 107 still born and children dying a short time after birth. Seventy-three (73) came to autopsy, with (8) tentorial tears, or 11%.

Meyer and Hauch (1913) in their series of sixty-four (64) necropsies of the newly born, attribute twelve (12) deaths in the twenty-eight (28) tentorial injuries recorded, and conclude that fatal tentorial tears constitute 2% of all labors.

Leclercq and Paput (1913) mentioned in their observations an incidence of fourteen (14) intracranial hemorrhages in thirty (30) autopsies held.

Henschen (1913) found 2.2%, or 29 out of 1277 post-mortems of the newly born.

Kowitz (1914) deducts that the dura is most often involved and the cerebral tissue the least frequently injured in a series of 6,000 cases.

Moreno (1915) cites ten tentorial tears in a series of 40 cases.

Hendren (1918) reports 9.3% intracranial hemorrhages in a series of 700 post-mortems. Of these, 65 cases, with injuries, 50 were spontaneous labors, 23 full term, and 27 premature. Suggests syphilis as a predisposing factor, and stresses the striking frequency of coincident echymosis in other serous membranes associated with intracranial hemorrhage.

Vischer (1919) 186 cases with 74 injuries; Warwick (1918) 36 cases with 18 injuries (only two of which was represented by long labor) and Bailey (1920) 100 cases of which 40 showed evidences of injury (of which 30 were still born infants—17 cases were normal and spontaneous).

Rodda (1920) from statistics of the New Born Clinics of the University of Minnesota, concludes that 50% of all infants that die intrapartum or during the first few days of life, even after an easy delivery, but frequently after breech and premature labors, succumb to intracranial hemorrhage.

Schaefer's (1921) series of 680 cases with 140 injuries (43 infants born after difficult forceps extraction, 39 had serious tentorial tears), is most significant.

THE FREQUENCY OF CEREBRAL HEMORRHAGE.*

The following are some figures relating to the frequency with which cerebral hemorrhage has been found in the stillbirths (macrated foetuses excluded) and neo-natal deaths:

	Stillbirths	Percent	Neonatal deaths (including neonatal)	Percent
Herbert Spencer (1891)	130	41%		
Holland (1919)	167	55%		
Capon (1920)	52	46%	28	21%
Browne (1921)	92	24%	80	44%
Cruikshank (1922)	200 (premat.)			28%
Kennedy (1922)	200 Mature stillbirths and neonatal deaths,			32%

Recent American and continental workers have published much the same results.

* (English statistics from Proceedings of Royal Society of Medicine, Session 1923-24, Vol. 17; Sections of Study of Disease in Children. Neurology, Obstetrics, and Gynecology, and Orthopedics.)

Brandt (1925) reporting the statistics for Bronx, New York City, stated that there were 15,160 babies born during 1924, of which 629, or 4.1%, were stillbirths and 469, or 3.1%, died during the first month of life, making 1,098 potential deaths of this series during the first month of life.

Sharpe and Maclaire (1926) summarize their theories of five hundred consecutive new born babies on whom the lumbar puncture was performed within 12 to 24 hours after birth. Forty-five, or 9% of the babies, disclosed a bloody and blood-tinged cerebrospinal fluid. Consider that one baby died before lumbar puncture was performed, and fifty babies were not tapped, and in thirty-six a dry tap was recorded, and in fourteen the test was not performed due to shock and prematurity.

SPINAL PUNCTURE.

(Foote Technique.)

In spinal puncture, or lumbar puncture, the hollow needle is pushed into the arachnoid space at the lower level of the third or fourth lumbar vertebra.

In the new-born child this procedure is somewhat more difficult than in the older child, because of the smaller interveterbral spaces and the lack of development of the spinous processes and the intravertebral ligaments. In the new-born the following points should be observed:

1. Always enter the needle in the median line of the spine directly through the ligament, to avoid puncturing the vertebral

veins which lie laterally in the vertebral canal.

2. Always use a small gauge needle, not larger than 20. The needle must be sharp and not rusty. The ordinary needle used



CASE No. 1

for intravenous transfusion is quite suitable.

Position—The child is placed on a small table, his back to the operator's left hand and facing the assistant. The assistant with his right hand grasps the child by the neck, near the shoulders, and with his left grasps the thighs near the knee, and sharply flexes the thighs on the abdomen to such an extent that the child's back is made convex. Lack of alignment between shoulder and hip must be prevented if the child attempts to struggle.

The back is washed with green soap, scrubbed with alcohol, and a line one-half inch in width, running perpendicularly from the spine of the ileum directly downward across the back, is painted with tincture of iodine. This should bisect the level of the fourth lumbar interspace.

PROCEDURE.

1. The child is brought to the edge of the table.

2. Sterile towels are placed under and over the field.

3. The operator wearing sterile gloves, marks the level of the fourth lumbar interspace with the left index finger or thumb and grasps the needle between the thumb and first two fingers of the right hand, the base of the needle resting in the palm of the hand.

4. The needle is passed in the soft space felt between the vertebrae at right angles to the plane of the infant's back, going first through the skin, then through the ligament, and finally with a release of resistance, into the vertebral space. It enters the medullary canal in the new born at a depth of one-half to three-fourths of an inch.

5. The obturator is withdrawn. If fluid does not follow, rotate and very slightly withdraw the needle. If no fluid appears now, push the needle very slightly forward. If, after half a minute, thick secretion is seen, blocking the needle, a syringe containing normal salt solution may be attached to the needle and a *very small* quantity injected, and then aspirated. This often serves to establish the flow.

6. If the canal has been properly entered fluid will drop or spurt out, depending on the amount of intracranial pressure. In the new born the normal rate of flow is about 30 drops a minute.

The spinal fluid and lumbar puncture: This procedure is a distinct therapeutic value in infratentorial hemorrhages, but is neither simple nor easy. At times, the vertebral veins are punctured and the fluid is colored with a bright red blood. This fluid will become less colored if the above is true, as additional fluid is withdrawn, but if it is due to hemorrhage, there will be but little change in the color. At times old clotted

blood is noted in infratentorial types. Cervical hemorrhages, of some days standing, may appear yellow or may be unchanged. Absence of microscopic blood in the spinal fluid may, at times, be of little significance—when supratentorial hemorrhages are present. Crenation of red blood cells is most significant in injuries below the tentorium.

In contrast to the fluid one would expect to find in cases of intracranial hemorrhage containing blood and blood derivatives—at times deep red in color, etc.—there are instances when perhaps days have elapsed and a yellow fluid is obtained. There are variations in color and reaction and these are classified into three types of yellow spinal fluid:

1. Xanthrochromia (Froin syndrome).
2. Erythrochromia (Haynes).
3. Nonne syndrome.

The color of this fluid is increased by the transudation of the blood plasma when red blood cells are absent and due to minute hemorrhages when blood cells are present.

1. Froin syndrome, 1903. Bright yellow color—rapid massive coagulation—high albumin and fibrin in content producing the clotting effect—increase cell count. Found in vertebral brain and spinal cord diseases where obstructions or interference to the cerebrospinal circulation is produced.

2. Hayne, 1906. Brownish red to deep amber—color changes from day to day—contains red blood corpuscles—does not clot and the tests for hemoglobin are positive—mild transudate from the blood are due to varying degrees of hemorrhage.

3. Nonne, 1910-1913. Yellow or colorless—protein content excessive but there is no cell increase.

INTERESTING FACTS.

1. Intracranial anatomy of the blood vessels in the newly born child is different from that of the adult, therefore, more liable to injury than ordinarily conceived.

2. Syphilis,—toxemic conditions of the mother,—early low forceps,—and hemorrhagic diseases of the newly born are relatively unimportant as factors in the production of intracranial hemorrhages of the newly born.

3. The anterior fontanelle does not appear to be a reliable index of a mild increase in intracranial pressure.

4. A modified sub-temporal decompression and cranial drainage should be advocated only when the lumbar puncture fails.

5. Manometric readings of intradural pressure should be taken with the spinal mercury-manometer in all suspected cases of hemorrhage of the newly born, but are not as conclusive as in adults.

6. The loss of 2 oz. of blood in a 5 pound infant is more than equivalent to the loss of one-half gallon of blood in 160 lb. man.

7. In modern textbooks of obstetrics the question of the cranial birth trauma expresses entirely erroneous views, and elaborate statistics of neonatal mortality never mention or classify the one important common cause, viz: intracranial traumatic lesions.

FETAL HEART BEATS.

Baumm (1917) in a series of careful observations on parturient women combined with autopsy studies of all stillborn infants, concludes:

1. Fetal tachycardia appearing without a preliminary bradycardia, in the course of a protracted labor of an afebrile woman is pathognomonic for a threatened intracranial hemorrhage.

2. Foetal tachycardia preceded by bradycardia, is rather suggestive of the fact that the hemorrhage already has occurred.

3. Foetal tachycardia, followed by bradycardia, probably is the beginning of a mechanical asphyxiation.

THE CAUSES.

Compression of the fetal head, with a small reduction of the volume of the skull,



CASE No. 3.

but leading to a rather marked change in its shape—illustrates an integral element of every labor. From the experience of others, this change that occurs is free of any marked injurious effect on the child, and under normal conditions a process is present, which precludes a marked increase of intracranial pressure. The protection of the contents of the skull, and more important of the brain tissue itself, is assured by the escape of a small amount of the cerebro-spinal fluid toward the spinal canal; by hastened absorption of the fluid into lymph vessels and also by a considerable reduction of the volume of blood within the brain. This process of moulding necessarily affects a change in the normal position of adjoining skull bones, which is most pronounced about the sagittal suture. When overriding of the parietal bones occurs, the subjacent dura is stretched and folded.

When excessive overlapping (mechanical dystocia) or the birth is suddenly precipitated, either by forceps extraction or large doses of pituitary extract, or if the dura is unusually fragile, due to prematurity, the dura may break and, at times, the longitudinal sinus may be torn open, including occasionally, the veins at the site of the sinus. If these vessels are engorged, asphyxiation may result, and they may break under a relatively smaller strain.

I. Trauma. II. Congestion or asphyxiation. III. Hemorrhagic diseases of the newly born.

I. *Trauma*: (a) Protracted labor. (b) Forceps. (c) Precipitated labor. (d) Advanced age of the primipara. (e) Obstetrical operations and maneuvers (version, difficult extraction and Caesarean).

II. *Congestion or asphyxiation*: (a) Obstetrical operations and maneuvers; (version, difficult extraction, Caesarean). (b) Syphilis. (c) Asphyxiation (short cord—frequent wrapping of cord around neck). (d) Prematurity and twins. (e) Deficient oxidation due to chloroform inhalation (Graham, 1912).

III. *Hemorrhagic diseases of the newly born*: (Diseases in which minor injury through innate tendency to bleed is made dangerous.)

CAUSES OF CYANOSIS IN THE NEWLY BORN.

I. *Intracranial hemorrhage of the newly born.*

II. Small anterior fontanelle with overlapping of the cranial bone.

III. Thymic disturbances.

IV. Congenital heart disease.

V. Congenital atelectasis of the lungs.

VI. Septic infections (umbilical, including pneumonia, etc., usually after the fifth day.

COMMON CAUSES OF FEVER IN THE NEWLY BORN.

(1) *Intracranial haemorrhage of the newly born.*

(2) Inanition fever.

(3) Septic infection of the newly born.

(4) Tetanus.

THE CASES.

These five cases now described in detail are characteristic of the various types of intracranial haemorrhage encountered by the practitioner:

Case 1. James W., the second of two children, was born February 8, 1926. There was nothing of particular interest in the family history. He was delivered by Dr. John F. Dicks and a few hours later was referred to me. A 7 lb. well developed child, showed no external evidence of his precipitated delivery, though the position was a face presentation. However, he did not cry very much and his efforts in this respect were more in the nature of a moan. Other than phimosis and overlapping of the sutures (cranial) the infant seemed normal in every respect.

Case No. 2. Arthur B., age 3 days, was referred to my associate, Dr. de la Houssaye and self, by Dr. Wilkes Knolle on April 4, 1924. He was the only child of healthy parents, born at full term, and a normal labor. He seemed rather quiet, refused to nurse, and subsequently developed convulsions, clonic in type, occurring at irregular intervals, averaging at least one per hour for a period of two days. The skin was very dry, the fontanelle full and pulsating. Spinal puncture was made, a large amount of pure blood was obtained and 40 cc. of whole blood was given subcutaneously. The child began immediately to improve, complementary feedings of Dryco were added, and his progress has been most satisfactory from a mental and physical aspect. Unfortunately, he was not brought for observance from January 1, 1925, to March 27th, 1926. The left leg shows a slight shortening, and a mild rigidity of the left ankle, but, other than this, he seems to be normal in every way. Orthopedic measures will correct this deformity.

Case No. 3. Catherine McW., born June 22, was delivered by Dr. John F. Dicks and referred to us two days after birth. Weight 7 lbs. 15 oz. High instrumentation had to be resorted to and

Date	Weight	Food	Symptoms	Treatment and Orders
2/8/26	7 lbs.	5% dextrose.	Vomited after each feeding.	Breast every 4 hours, 5 min., complemented with dextrose solution.
2/9/26	7	5% dextrose.	Vomited after each feeding.	Breast every 4 hours, 5 min., complemented with dextrose solution.
2/10/26	6.5	Dryco formula.	Vomited after each feeding and refused to nurse. Baby somewhat rigid through day.	Feed formula with medicine dropper.
2/11/26	6.3	Dryco formula.	Opisthotonus and vomiting (continuous). Scrotum increased in size due to intraperitoneal injection. Fever 105 signs of inanition fever.	100 cc. 5% glucose by hypodermoclysis. 100 cc. normal saline intraperitoneal. Spinal puncture revealing red blood, about 30 cc. was obtained, somewhat under pressure. Atropin 1/1000 by hypo. before feedings. Breck feeder.
2/12/26		Dextrose 5%.	Cyanosis, vomiting and labored respiration, moan, and rigidity. Fever, maximum 106°. Clonic convulsions.	Spinal puncture about 25 cc. Chloroform water, whiskey, 100 cc. saline, hypodermoclysis. 100 cc. of 5% glucose, intraperitoneal.
2/13/26		Lactose solution 5%.	Shrieks at times, rigidity much less; retained some feedings. Difficult to arouse. Temperature 103, (maximum).	100 cc. saline hypodermoclysis. 100 cc. 5% glucose intraperitoneal, whiskey by mouth.
2/14/26	6.11½	Mother's milk and 5% solution.	Vomited once, retained all other feedings. Temperature 103, (maximum).	100 cc. saline hypodermoclysis. 100 cc. 5% glucose intraperitoneal; whiskey by mouth.

From this time on, there was a gradual increase in weight and on the day of his discharge from Touro Infirmary, February 23rd, the child weighed 7 lbs. 4¾ oz. Other than a sluggish pupillary reflex, the child now nine weeks old, weighs 11½ lbs. and, as far as can be judged seems normal in every respect. Acknowledgment must be made to the faithful care given this child by our resident interne, Dr. Henry Leopold, of Touro Infirmary.

an examination revealed a slight trauma on the left side of the head, where the instrument had been placed. The anterior fontanelle was extremely small, and the child showed a disinclination to nurse, and failure to cry. Clonic convulsions at irregular intervals occurred on the 25th and 26th. Spinal puncture was made on the 25th, a bloody spinal fluid being obtained under pressure. 20 cc. of whole blood, obtained from the father,



CASE No. 4.

was immediately given subcutaneously, with rather encouraging improvement. On the 26th, a second spinal puncture was made—the fluid being under less pressure and distinctly lighter in color. Whole blood 20 cc. was again given subcutaneously. In the early A. M. of the 27th a few convulsions were noted. From that time on everything seemed to adjust itself and we have today a normal child in every respect.

Case No. 4. Roy M., Jr., was referred to us by Dr. Denegre Martin on the same day of its birth, June 4, 1925, after a very difficult delivery in which low forceps were used. There seemed to be respiratory difficulties and various methods of resuscitation were used. On the 6/6/25 frequent convulsions occurred in the early A. M. A lumbar puncture was performed and a bloody fluid, 8 cc. in amount, was obtained. The convulsions were controlled with chloral hydrate and bromide. Immediately 40 cc. of whole blood was given subcutaneously, obtained from the father, and the same afternoon, two hours apart, $1\frac{1}{2}$ cc. of fibrinogen for two doses was administered subcutaneously. The fever, 103, quickly dropped to normal in a period of 24 hours, the child began to nourish and the other symptoms became of less intensity and, at the end of two additional days, the child seemed to be on the road to recovery. He is now 10 months of age and apparently normal in every respect.

Case No. 5. Sarah E., age 11 days, was referred by Dr. A. L. Lewis, of Amite, La., on the 21st of April, 1925. Though weighing 9 lbs., she

was delivered at full term, apparently normal. At 4 days the mother noted attacks of severe blueness with the loss of breath. Other than the past history, the examination revealed nothing that would have in the least way intimated the suggestion of intracranial hemorrhage of the newly born. Thymic asthma and intracranial hemorrhage of the newly born were seriously considered as the possible causes for the cyanosis. The radiological examination of the chest showed evidence of enlarged thymus to the left with no other evidence of pathology and 50 mg. of radium for 6 hours was applied. This conclusion alone was not satisfying and a lumbar puncture was suggested. Parental objection to this intervention prevented my so doing. Subsequently, after repeated requests, the child was again brought to the city, the examination (X-ray) showed complete disappearance of the thymus gland with history of spells, though mild in character, continuing at irregular intervals. On the 24th of April, 1925, the baby was admitted to Touro Infirmary and spinal puncture was performed on the 25th and $2\frac{1}{2}$ oz. of pure blood was obtained. On the 26th a spinal puncture was repeated and only a few drops of blood was noted. From this, up to the present time, there has been no recurrence of the convulsions and a letter received April 14th, 1926, expresses her present state of being: "Sarah K. has never been sick after having your treatment, except one little spell with her bowels. She held her head erect at 4 months, sat alone at 5 months, crawled at 7 months and walked at $10\frac{1}{2}$ months. Today she is one year of age, weighs 22 lbs. and is $27\frac{1}{2}$ inches tall. Her sight, hearing and sense of balance is perfect. She takes good steps and is very steady on her feet. She is beginning to talk, says 'mama,' 'daddy,' 'bye-bye,' and asks for water—blows out matches, and, in fact, does all cute little things that a baby should do."

CLASSIFICATION.

A. Hemorrhage.

1. Cephalhematoma internum.
2. Subarachnoidal hemorrhage.
3. Dural haematoma.
 - a. Supratentorial.
 - b. Infratentorial.
 - c. Mixed type.
4. Brain hemorrhage.
 - a. Ventricular.
 - b. Diffuse or circumscribed.

B. Lesion without hemorrhage.

1. Contusion cerebri.
2. Ischemic areas.
3. Slight tentorial laceration.

HEMISPHERIC.

Infant cries a great deal during first few days.

Breathing center becomes affected comparatively late. Infant is pale.

Death may be delayed. Fontanel becomes tense within comparatively short time.

Prompt appearance of symptoms of intracranial hypertension.

Rigidity of neck and episthotones hardly noticed.

Symptoms from affection of facial and oculomotor nerves at first may be unilateral.

INFRATENTORIAL

Infant usually is very quiet, apparently is sleeping or is comatose.

Breathing center, as a rule, is affected early. Infant is cyanotic, especially during convulsion.

Death usually occurs early.

Fontanel at birth is practically normal. Increased tension, if at all, becomes noticeable only later.

Symptoms of hypertension appear late.

Rigidity of neck and episthotones usually marked.

Symptoms from affection of facial and oculomotor nerves, as a rule, immediately are bilateral.

SYMPTOMS.

- I. Massive Hemorrhage—1. Cyanosis.
2. Difficult breathing.
3. Tremors (arms and legs (noted a few hours after delivery).

No recovery in extreme cases and when there is an exception to the rule, it is considered by some as Little's disease.

- II. Delayed Hemorrhage (most common)—No symptoms until focal pressure has developed within the skull—noted between 48 and 72 hours—a child appears apparently normal at birth.

1. Disinclination to nurse—lethargy.
2. Protruding tongue to an abnormal degree where hemorrhage is below tentorium cerebelli and due to irritation of glossopharyngeal nerves.
3. Cyanosis, not permanent—intermittent, occurring at various intervals or at times extreme pallor.
4. Convulsions—tonic twitchings of limbs, most frequently the arms, although in the cortical types, clonic manifestations may be noted—flexors of extremities—respiratory muscle groups—rolling of the eyeballs—twitchings of the face muscles—opisthotonus with definite rigidity of the neck. These convulsions vary in frequency, duration and intensity. If hemorrhages are small or an edema only limited in its involvement—same is quickly absorbed—and clinical signs may be so trivial and insignificant that they are apt to be overlooked or possibly cannot be determined even by careful observation. Hemorrhage, supratentorial—cyanosis is late—retraction of head is not noted but fontanelle is firm and bulging. Hemorrhage infratentorial—fontanelle does not bulge early or not at all and opisthotonus of the head is frequently seen. Localization of a site of the hemorrhage is very difficult in children. However, when facial and other cranial nerves affected exhibit paralysis of a bilateral type, the hemorrhage is infra-

THE COAGULATION OF BLOOD.

The simple methods of testing the coagulability of blood are given in order that the general practitioner may have the means of classifying his cases, and might resort to these procedures at the bedside if necessary.

Rodda's method may be briefly described as follows: The heel of the infant is cleansed with ether. A puncture is made with a sterile lance blade, deep enough to produce a free flow without requiring any squeezing of the skin. A clean watch glass containing a No. 6 shot receives the second drop of blood. Another watch glass is inverted over the first. The glasses, held together, are gently tilted every thirty seconds until the shot no longer rolls, but is fixed in the clot. In the end the shot is so firmly imbedded that the glass may be inverted without dislodgment of the shot. Normal coagulation 7 minutes, limits 5-11 minutes.

Duke's method consists in making a stab wound in the heel and then without squeezing drawing away the exudated blood gently with blotting paper until bleeding has ceased. Normal coagulation $3\frac{1}{2}$ minutes, limits 2-5 minutes.



CASE No. 5.

tentorial; and supratentorial (hemispheric) when paralysis is unilateral. Eye symptoms are misleading when paralysis occurs preceded by an irritative or tonic period in the muscle affected, tonic convulsions precede flaccidity.

First 24 hours: 1. Irritability. 2. Disinclination to nurse. 3. Extreme lethargy. 4. Protruding of tongue.

Second 24 hours: 1. Tenseness of fontanelle. 2. Twitching of limbs (spastic). 3. Intermittent cyanosis or pallor.

TREATMENT.

Prophylactic: The obstetrician must be alert and accurate in his observations in order to limit the number of so called difficult labor cases,—pelvic measurements,—chronic diseases,—interpretation of fetal heart signs,—violent methods of fetal resuscitation,—each must have a place of importance. *Pituitrin and high forceps are responsible for the greater number of cases included in the intracranial hemorrhages of the newly born, and must be avoided.* Give the newly born the care it justly deserves—and do not allow the child to go unnoticed or to be placed in the care of a nurse without instruction—for the first few days are the important,—the vital days—as far as the infant's future life is concerned. DeLee remarks: "The pernicious doctrine that traction on the after coming head and similar procedures rarely harm the infants, must undergo complete revision." In cases of questionable signs and symptoms—where doubts are expressed—seek the consultation of a confrere and give the child a fair chance to live in this world of ours on an equal mental and physical basis with the rest.

In all difficult cases give 20 cc. whole blood (obtained from father)—either under the skin or intraperitoneal,—or substitutes rich in thrombin content.

Active—general methods:

I. Do not fondle—manipulate—or handle a baby.

II. Keep body warm, but do not burn.

III. Ice bag to head, if fever is high and continuous.

IV. No direct nursing or violent sucking—medicine dropper—Breck feeding—nasal feeding—preferably mother's milk;—in the absence of same 5% dextrose or lactose solutions is used. In prolonged cases

weak dilutions of dried and condensed milks.

V. If vomiting is a continuous symptom, and inanition fever is at hand, hypodermoclysis of 3 to 5% glucose solution is indicated. If loss of weight is extreme and baby appears pinched, intraperitoneal injection or an additional hypodermoclysis of normal saline solution is most necessary. This is particularly true in cases associated with umbilical and other infections where the antithrombic elements are proportionately increased.

VI. Fever—the choice of hydrotherapy and not antipyretics.

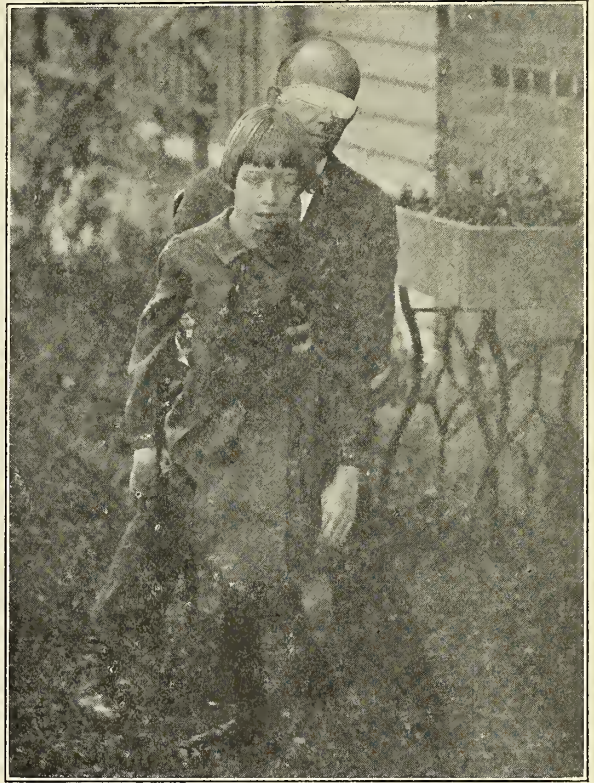
VII. Continued rest and constant watching by a trained nurse, with the exclusion of all visitors.

Active—local methods:

I. Blood. II. Spinal puncture. III. Surgery.

I. Blood: do not procrastinate and act rapidly. Blood transfusion (whole blood) from 10 to 20 cc. every six to eight hours for at least three injections. Thromboplastin, 10 cc. subcutaneously as a substitute for whole blood can be used for the same intervals and number of injections, or 1 cc. fibrogen. Horse serum (fresh), citrated human blood, can also be utilized—requiring, however, additional laboratory test and necessitating added surgical troubles and anaphylactic considerations. Transfusion, or infusion, through the fontanelle into the superior longitudinal sinus, requires practice—special needle and quick co-operation and is attended with a certain element of risk. The good results obtained by the former plans relegate this plan to a secondary choice.

II. Spinal puncture: Intracranial hemorrhage in the newly born, being such a serious clinical entity, allows all forms of treatment that may ultimately benefit the child. Advisability of using lumbar puncture as a form of treatment is justifiable



CASE NO. 6

as a remedial measure. Said procedure is at times neither simple nor easy—dry taps and failure to puncture the spinal canal within given limits are often mentioned by observers. Spinal puncture is quite necessary for infratentorial hemorrhages, but at times may not assist materially in supratentorial hemorrhages—in such cases ventricular puncture may be co-indicated. Repeat every 6 to 8 hours until the fluid is but slightly colored or, at best, colorless.

III. Surgery: Surgery has been suggested by Cushing, although in the experience of Grulee, it has been anything but successful. Providing the coagulation time has become normal, but symptoms still persist, surgical intervention must necessarily be made within a period of a week to be of any particular value.

COMPLICATIONS.

- I. Fever (severe cases).
- II. Bleeding from mucous surfaces.

III. Persistent vomiting—not usual—generally fatal.

IV. At times spinal cord injury—flaccid paralysis of a bilateral type.

In closing let me ask the profession as a whole to examine thoroughly the newly born, and where ever there might be the slightest suspicion of doubt, give the child a fair chance to be normal. Although there are cases in later life with definite evidences of spasticity—where birth histories and signs were wanting the percent of this group is extremely small. The photograph (Case No. 6) in itself is the conclusion of a case not properly treated at birth, although in this instance our knowledge on this subject at the time of her birth was most limited.

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*Only a limited number of these references were used—but the entire list is reproduced for the benefit of those who might desire to write further on this subject.

INTRACRANIAL HEMORRHAGES IN THE NEWLYBORN.*

ETIOLOGY, PATHOLOGY AND SYMPTOMATOLOGY.

JOHN SIGNORELLI, M. D.,

NEW ORLEANS.

Not only the clinician whose work brings him in contact with large numbers of new-born infants, but the statistician whose duty includes the review of certificates of death, as well, must of necessity have observed the rather large number of infant death certificates bearing the diagnosis as cause of death "Birth injury," "Asphyxia," "Paralysis" or "Convulsions." That at least some of these cases were due to causes

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more specific and direct became the thought of some clinicians, who hoped that, this being so, effectual treatment might be evolved that would not only save many lives, but help eliminate those cases which, surviving, appeared later in the various clinics as cases of non-curable nervous or muscular deformities that account for a goodly number of helpless individuals. Personal impressions of the writer in this respect were substantiated by a study of the autopsy records of the Charity Hospital which showed a sufficient number of intracranial hemorrhages where the certified cause of death had been one of the above named, to invite serious reflection. A review of the medical literature on the subject, as quotations therefrom will subsequently show, strengthens this view.

In the brief time allotted this paper it is impossible to consider fully the etiology and pathology of the various types of lesions in all hemorrhagic conditions of the newly-born. Yet a clear understanding of the etiology and pathology of intracranial hemorrhages in the newborn can not be had without at least some reference to those hemorrhagic affections sometimes discussed under the name "Hemorrhagic Diathesis," because besides furnishing the etiology of the greater number of these cases, this condition still remains at best little understood, and therefore invites more painstaking investigation. In a general way it will suffice to state that these affections represent a number of pathologic conditions having in common a fundamental tendency to blood extravasations occurring more or less independently and therefore differ from extravasations appearing as complications or sequels to other diseases as congenital lues, septic processes, leukemia. It is quite obvious that however earnestly one may try all cases cannot be clearly classified, for very often the etiology in a given case represents more than one factor, *i. e.*, in a case wherein exists an hereditary tendency to hemorrhage (Hemophilia) trauma so slight as to otherwise cause no appreciable bleed-

ing would here act as the exciting cause of a hemorrhage of considerable extent. Therefore it results that most of these cases represent a complex rather than a single etiological and pathological factor.

Study of the etiology is made more comprehensive if classification is made in groups as follows:

1. Those based upon a hemorrhagic diathesis (Hemophilia).

2. Those based upon constitutional disturbances, including:

- (a) Sepsis.
- (b) Congenital lues.
- (c) Leukemia.
- (d) Prematurity.

3. Those based upon birth injuries, including:

- (a) Instrumental.
- (b) Non-instrumental.
- (c) Manipulations for resuscitation.

1. The hemophilic group represents that percentage of cases of spontaneous hemorrhages the underlying cause of which, in the light of our present knowledge, is not satisfactorily explained, as proven by the many hypotheses advanced, none of which are supported by facts. Faulty mixture of the blood elements resulting in impaired coagulation is advanced by Grandidier and Lossen; Virchow and Aberhalden believe it due to anatomical anomalies, especially thinness of the blood vessel walls; while W. Koch considers it infectious in origin. Pathologic study has given more appreciable results. Fatty degeneration of the vascular intima with enlargement of the endothelia and swelling of the nuclei and been reported by Hooper, Linton and others. The blood shows marked reduction of hemoglobin and a picture of severe anemia with poikilocytosis and nucleated red cells; the neutrophils are reduced both relatively and absolutely, though the quan-

tity of fibrin and other physical properties of the blood are normal with the exception of the platelets which are always reduced in number. The coagulation time is prolonged very markedly, often as high as ninety minutes, and the bleeding time to several hours. In this connection the work of Rodda must not be lost sight of. He has shown that the coagulation time in normal newborns is gradually prolonged immediately after birth reaching its highest by the fourth day and ordinarily returns to normal by the fifth or sixth day. The bleeding time is prolonged hand in hand with the coagulation time and returns to normal about the same time as the latter. This coincides with the fact that spontaneous hemorrhages ordinarily appear from the second to the fourth day after birth, and this is of considerable value in arriving at a diagnosis. Two types of "bleeders" as these victims are often termed, are recognized, though a sharp line of demarcation is impossible. The first, in which hemorrhage occurs without apparent cause, are termed "transitory" or "spontaneous" bleeders; and the second are those cases where the hemorrhage is excited by trauma. These represent the larger number of cases in the newborns, and affect the males more often than the females, the proportion being variously given as from three and a half to thirteen times more males than females.

2. Cases are sometimes seen which exhibit no apparent cause and would be classified as spontaneous hemorrhages based on a hemophilic origin but for the fact that the coagulation and bleeding time are within the normal. Most of these are in reality secondary to septic or syphilitic infections, or to leukemia and are differentiated by the existence of other clinical signs relating to the underlying cause. In these cases labor may have been easy or spontaneous; the child small or even premature.

3. In the group represented by birth injuries we find the more important eti-

ological factors than all the above named, all of which may well be considered as predisposing to intracranial hemorrhages resulting from birth injuries. We say more important because they are within the possibility of control by the obstetricians. Because injuries to the intracranial tissues can and do occur even in labors that are easy, relatively short and in every way normal, co-existence of any of these predisposing factors will invariably produce hemorrhage sufficient in extent to cause symptoms.

But for the majority of these cases the responsible cause is to be found in definite anomalies of labor, as breech cases, extraction of the after-coming head in cases of version, difficult forceps cases, and especially in conditions of mechanical dystocia.

Asphyxiation prolongs both the coagulation and bleeding time, and like prematurity renders the infant more susceptible to trauma while attempts at resuscitation are made. Too often such manipulations are so violent as to produce more damage than benefit to the infant.

PATHOLOGY.

In the study of the pathology in intracranial hemorrhages we find that as early as 1832 in his pathologic-Anatomic Atlas, Cruveilhier showed appreciation of the fact that of all the cephalic injuries due to trauma of birth the most important are those of the skull contents, brain and meninges. He also showed that such injuries in newborn infants exist without external evidence of trauma, as proven at autopsy findings. Such cases were discussed in a most thorough manner from the anatomical standpoint by Weber and also by Virchow in 1852.

It is of historic note that interest in the clinical aspect of intracranial hemorrhages of the newborn was first manifested by the neurologists. It was Little of London who stated in 1843 that spastic paralysis in young children is due to a lack of de-

velopment of cerebral tissues and also to meningitis, and called attention to the fact that this type of paralysis seems to follow difficult and prolonged labor with or without instrumentation. He expressed his opinion that palsy was due to intracranial hemorrhages, and later, in 1862, he asserted that intracranial hemorrhage caused about 75% of spastic paralysis cases.

Next to the neurologist, the pediatrician became concerned with this problem as shown by the appearance in 1902 of a monograph by Finkelstein in which he showed the outstanding importance of birth trauma in the development of infants.

While the obstetrician was slow to enter this field, his researches have finally led to a clearer understanding of the etiology and pathology of the lesions met in intracranial birth injuries and therefore of intracranial hemorrhages of the newborn. In 1907 Seitz published his classic paper on the symptomatology of brain hemorrhages in the newborn, and in 1909 Beneke supplemented our knowledge with his publication on lacerations of the tentorium, and it is to the latter that we owe our more definite knowledge of the actual frequency of these injuries, and the exact pathology associated therewith, for it was he who clearly described the new method of opening the infant skull at autopsy.

For the purpose of brevity the pathologic pictures met in intracranial hemorrhages of the newborn may be classified as follows:

1. Internal cephalhematoma.
2. Sub-arachnoidal hemorrhages, which include:
 - (a) Supra-tentorial.
 - (b) Infra-tentorial.
 - (c) Mixed lesions.

This type represents the most frequent cases seen.

3. Dural hematoma or sub-dural hemorrhages.

4. Brain hemorrhages, which are subclassified as follows:

- (a) Ventricular.
- (b) Interstitial, either diffuse or circumscribed.

1. The pathology in the cases of internal cephalhematoma is explained by the fact that the blood vessels of the cranial periosteum pass directly through the skull bones into the firmly attached dura mater, and therefore even in the absence of definite bone lesions, formation of an epidural hematoma may follow external trauma, and it is questionable how many external cephalhematomas are associated with an internal one, as mentioned by Sidbury. This particular lesion rarely causes death, and in many instances produces few clinical symptoms.

2. The sub-arachnoidal group of hemorrhages represent by far the largest number of cases. The bleeding is located more often over the convex surface of the brain hemisphere near the mid-line. Occasionally blood is found over both hemispheres, but more extensive on one side, and in most cases bleeding is limited to one side only. According with the distribution of the clot spasmodic contractions are more pronounced in, or limited to the lower extremities. Beneke and Zausch reported a case of a premature infant born after an easy and spontaneous labor which died after thirty-six hours. Autopsy showed a large sub-pial hematoma in the posterior portion of the brain, covering both sides of the cerebellum. Seitz quotes Kundrat as describing in 1890 intracranial hemorrhages of this type in autopsies of young infants with small heads and born after short normal labors.

3. Dural hematoma or sub-dural hemorrhages though more rare than the preceding are of greater clinical significance and represent the most important group from a practical point of view. Kowitz studied six thousand autopsies of newborn or

very young infants and established proof of the prevalence of this type of intracranial hemorrhage. Except in the exceptional cases arising from the median meningeal artery in cases of guttered skull fractures after forcible delivery, the bleeding is of venous origin. His findings seemed to confirm the older view that sub-dural hemorrhages in the newborn lie most often over the convex surface of the hemispheres beneath the parietal bones. Since the first studies of Beneke authorities seem agreed that these hemorrhages are most often situated just above or just below the tentorium, the upper blade of which is the most frequent to receive damage in tears along its free edge. These cases were classified by Pott into three types, namely, first an extensive tear through the free edge usually lying about the middle, being often bilateral and extending through both blades of the tentorium. The torn edges are ragged, fringed, and covered with a thick coagula of blood which has escaped from the injured vessels (veins) running along the free margin. The blood escapes upward above the tentorium and forward into the temporal fossa, or it rises laterally over the occipital lobe. Less frequently the blood passes downward covering the cerebellum and medulla, with portions of it finally reaching the spinal canal. The amount of blood extravasated varies from forty to ninety cubic centimeters in the larger cases. This distribution of blood is of vast clinical importance because it shows that absence of blood in the spinal fluid when doing a spinal puncture for diagnostic purposes does not exclude any but this more rare and profuse type of hemorrhage.

In the second milder type first described by Beneke, the laceration involves the upper blade and the hemorrhage is less severe. In the third and least serious type the hemorrhage is limited to a small clot between the blades of the tentorium. This type produces few, if any, clinical symptoms, and may be overlooked in a careful autopsy.

Infratentorial hemorrhages, especially if the large veins emptying into the transverse sinus are torn, result in blood being extravasated more or less completely over the cerebellum and portions of the medulla. Some of this blood is found in the upper portion of the spinal canal. This type of lesion according to Henschen is much less frequent than the supratentorial type.

The mixed forms of this lesion represent escape of blood above and below the tentorium following tears, but are quite rare.

4. Hemorrhages into the brain proper have been thought to be comparatively rare, but more recent autopsy studies at Charity Hospital show them to be quite frequent. The bleeding may take place directly into the ventricle, in which case it is rather extensive. The flow is, in these cases, through all the ventricles toward the medulla, and into the spinal canal. Usually the convex surface of the brain is normal in appearance and free from blood over both hemispheres. Or the hemorrhage may be into the brain substance itself, appearing in multiple diffuse areas or as a larger circumscribed clot.

SYMPTOMATOLOGY.

The clinical picture resulting from intracranial hypertension in the newborn differs from that in the adult because of the great anatomic differences in the respective skulls. In the adult this increase results from increase in the skull contents, while in the newborn we must consider the pressure being exerted entirely from without, due to molding during labor and resulting in actual reduction of the skull volume. While nature provides sources of compensation, as by the escape of cerebrospinal fluid into the spinal canal and by increased absorption of fluid by the lymphatic channels, as well, perhaps, as by a reduction of blood volume within the cranium, this arrangement can only be adequate in purely normal cases. In the abnormal cases represented by difficult or prolonged labor, or by undue pressure due

to instrumentation or manipulation, injury to the intracranial tissues, especially the tentorium, follows with resulting hemorrhage.

The location and extent of this injury as well as the resulting extravasation of blood determine the type and degree of clinical phenomena exhibited. The classic symptom of intracranial hypertension, namely, bulging of the anterior fontanelle indicates a large ventricular or hemispheric hemorrhage, or a marked edema which often develops as a direct sequel of a large brain hemorrhage. No bulging exists if the hemorrhage is small or if it is located sub-tentorially, except in rare cases when it may develop late as a result of continued oozing. Prolongation of the coagulation and bleeding time are constant symptoms in cases based upon a hemophilic diathesis, but one must not forget that as Rodda has shown these findings are present phenomena also in normal infants from birth until the fifth or sixth day. Asphyxia is usually present, the infant presenting a picture of distress, emitting a feeble characteristic cry, and fails to nurse because of lack of the normal sucking reflex which in the normal infant is easily established by rubbing the lips with the finger. The skin shows cyanosis in cases of infra-tentorial hemorrhages, and a marked pallor in hemispheric hemorrhages, but often at the onset one notices only a peculiar mottling of the skin as if the body is chilled.

The respiration is affected in all cases, though early in the infra-tentorial and later in the hemispheric types. Breathing is slow, deep, irregular and always interrupted by the rather incessant cry mentioned above. The slow stertorous breathing seen in cerebral hemorrhages in the adult is not present in the newlyborn. A hemispheric hemorrhage with slight hypertension not sufficient to produce convulsions usually causes no cyanosis, while this is the common occurrence in infra-tentorial hemorrhage.

Convulsions constitute the most formidable symptom. They represent hemorrhage over the cortex, and are usually clonic and tonic, involving chiefly the flexors of the extremities. In severe cases the muscles of respiration are also involved. In cases of infra-tentorial hemorrhages there may be rolling of the eye balls, twitching of the face muscles, rigidity of the neck and opisthotonos. The production of trismus is very rare.

Paralysis usually follows the convulsive stage as further extravasation of blood increases the intracranial pressure beyond the point of excitation and irritation causing the spasticity to yield to paralysis. This usually involves the muscles of the extremities.

Occasionally a clinical picture of confusing manifestations exhibiting a spastic condition in one group of muscles with simultaneous paralysis of others is seen. This has been explained to be due to a combination of irritative cortex hematomas with hemorrhage within the brain substance causing paralysis of certain centers.

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DISCUSSION.

Dr. P. T. Talbot (New Orleans): I want to congratulate both of the essayists on bringing this important subject to our attention. I was attracted to this important and unfortunate condition by having two cases in my obstetrical practice, and it caused me to review the literature of the cases reported of those which recovered and of the autopsies performed. I was amazed that this important condition occurs more frequently than we are led to believe. With the improved methods of diagnosis at our command today and in consultation with pediatricians we are able to recognize more of these cases than we formerly did. If this unfortunate condition exists sometimes without producing symptoms and is thought to be

the cause of disabilities in later life described by Little, producing method derangements in later life, isn't it incumbent upon those who are doing a large obstetrical practice to be more observant of their technic during labor in order that these disabilities of later life might be prevented? I think that the subject is one that is extremely interesting to everyone and I want to assure you that the clinical entity presented in this class of unfortunates is one that will tax the ability and the endurance of anyone who is unfortunate enough to have to come in contact with it.

I appreciated the papers very much and I think they will give a sounding to our general practitioners to be more careful in the handling of these cases and make the diagnosis and prevent them if possible.

Dr. Charles A. Bahn (New Orleans): There is a marked analogy between the vascular condition which exists in the back of the eye and in the cerebral ventricles. In both places we have vessels which have on one side a body fluid under a lower degree of pressure than is in the vessels. It has been definitely proven that in normal labors and in normal children, twenty-five percent have retinal hemorrhage. These hemorrhages are usually absorbed in about two or three weeks and seldom cause permanent visual impairment. They have been attributed to a diapedesis from the veins either in the course of a very slight asphyxiation or because of the interval which exists between the cessation of the maternal circulation and the full action of the child's heart.

Will Dr. Bloom or Dr. Signorelli tell us whether or not the percentage of ventricular hemorrhages at birth, is probably much greater than is commonly thought? The analogy between the ventricles and the eyes would apparently explain the ventricular hemorrhage at birth in 25% of the normal deliveries. Is it not possible that ventricular hemorrhages at birth undergo the same evolution as those in the eye and only occasionally leave permanent degenerative changes behind? Might the existence and severity of retinal hemorrhages in this connection be suggestive of intracranial hemorrhages not only in amount but in severity.

Dr. Lucien A. LeDoux (New Orleans): This timely subject has been rather fully covered by the two essayists in the time allotted and I simply want to emphasize the feeling which ran through both papers, namely, that many of these injuries could be avoided by proper supervision of many normal cases. We know that the injuries usually resulting from edema or hemorrhage following precipitate labor result from extreme overlapping and pressure. The same may be

said in the normal cases where we have premature ossification of the cranial bones and probably early posterior fontanel closure.

Undoubtedly most of the cases of intracranial hemorrhage are overlooked. Many of them are slight. The symptoms last but a short time, little importance is attached to them and the baby recovers for the time being, often rapidly, and only in the later years through the history can one connect the former injury with the present illness.

In regard to the injuries resulting from operative delivery, I am of the opinion that much can be done here in exercising the proper judgment in choosing the proper type of obstetrical operation; also, in reaching a conclusion regarding which method of delivery will be least injurious to the baby.

The question of spinal puncture, is being advocated now rather freely—in our own service we resort to it frequently, we have found spinal decompression very valuable. We have repeatedly done as many as three or four punctures over a period of twelve to eighteen or twenty hours, at first possibly getting clear fluid. At times we have had fluid under pressure; at other times we have had fluid without pressure. Again, we have often had bloody fluid after the first puncture and with subsequent punctures clear.

There is some difference of opinion regarding the presence of bloody spinal fluid when the puncture is made in early infancy, some believing that for some unexplained reason most of these spinal fluids will be bloody. We believe though, that the contaminated fluid is not greater in spinal punctures in infants than in adults.

Regarding craniotomy, I believe it is agreed by most authorities that the mortality is so high in practically all cases that it should not be attempted.

Dr. Guy A. Caldwell (Shreveport): It is perhaps out of place for an orthopedic man to discuss a paper in the medical section. Nevertheless, the importance of this particular paper cannot be over-estimated. Perhaps, unless you are in a hospital for crippled children or see crippled children constantly, you cannot appreciate the great number of these cases that exist, and you cannot appreciate the pathetic side of not being able to do anything for the case that doesn't even have the mentality to co-operate.

It is a vastly important question and it must be approached, unquestionably, from the side of prevention and then, early treatment. I think that the condition which exists finally justifies the most heroic means in the early stages. It is

true that they can be helped when they have enough mentality to co-operate. A great deal can be done at that stage, but it is discouraging, and those people are handicapped and seriously handicapped the rest of their lives, and anything that can be done in the early stages is most important. I hope that Dr. Bloom will give us some of the results of treatment in the early stages because we need it. (Applause.)

Dr. N. F. Thiberge (New Orleans). I want to ask Dr. Bloom a question. He mentions the difficulty about making a spinal puncture successfully. I have had a few cases and I have used the same method as in adults. I would like to know, Dr. Bloom, whether there is a special difference in the method of puncture used with children than that used with adults.

Dr. J. S. McBride (Ansley, La.): Do you brethren give maximum dose of pituitrin? Are you doing that now? I did, but am convinced that it is dangerous. I have not killed a child with it, but I am sure the child is harder to resuscitate than if delivered by instruments in the hands of an intelligent physician. I think it is very dangerous especially in primipara where every condition is not suited to take the maximum dose.

Dr. R. McG. Carruth (New Roads): I have not done a large obstetrical practice but having practiced medicine in the country—this is my forty-sixth year—I must have done a considerable amount of it. I have used in my practice, since the advent of pituitrin, one single dose. I always regarded it as dangerous to hurry up these cases and I have always advocated giving the patient plenty of time. I think I have lost very few, if any, cases, by waiting, and I think I have known a good many to be severely injured, by precipitate labors.

I recall one case where a physician gave a large dose of pituitrin simply because he had another call, two cases on hand at one time, and he couldn't wait. The child was saved but the mother was fearfully lacerated and is an invalid today.

I have given, as I said before, one dose of pituitrin, and I hope I will never feel the necessity of giving another because I think it is nearly always running some risk. There no doubt are times, however, when it should be given to save life. If more care, however, were given, as an unvarying routine measure, to the proper preparation of the expectant mother for the ordeal of delivery, there would be fewer abnormal deliveries, and consequently less frequent necessity for such a powerful and precipitate oxytocic.

Dr. Signorelli (in closing): I want to assure the gentlemen that I appreciate the discussion,

and also repeat that too much importance cannot be attached to the subject that was taken up in these two papers.

Dr. Talbot in his remarks mentioned with a great deal of feeling the embarrassment that one feels when faced with one of these cases. I had the pleasure of seeing one of Dr. Talbot's cases with him, and that little case, although fortunately it turned out all right and is doing very well, lingered on for a period of over two weeks without giving us any encouragement as to final recovery.

An important feature about these cases is brought out by comparison of Dr. Talbot's case with a case that existed at the same time. There was a difference of twenty-four hours in the ages of these two babies and the symptoms ran along almost completely parallel. At the end of about two weeks Dr. Talbot's case continued to respond to medical treatment, whereas the other case went on through the variations of clinical pictures as described in my paper of convulsion and final paralysis. When that point was reached and the respiration was so terribly embarrassed that we were sure the child was going to die unless some surgical intervention took place, I advised the obstetrician that a craniotomy should be done. Clinical evidence indicated the presence of a hemispherical clot over the right side and fortunately the guess was good, the craniotomy was performed and a large clot removed, after which the child made not only an uneventful recovery but overtook Dr. Talbot's case and returned to absolute normalcy in a shorter time.

While it is true that Cushing advocates putting off craniotomies and being careful not to do craniotomy unless you are certain as to localizing the clot, in cases where you have done everything else medically and you are getting no results, I believe craniotomy is absolutely indicated rather than to let the baby be at its own mercy with nothing to face it except certain death.

In answer to Dr. Bahn's question concerning the explanation of the postretinal hemorrhages, I can only believe that inasmuch as there is a general increase of intracranial pressure, and inasmuch as the blood vessels of the retina have not as substantial a background as the other blood vessels of the brain have, possibly hemorrhage will take place at this particular site and relieve the intracranial pressure to a certain extent, thereby preventing further oozing or further damage unless the case is one of those accountable as hemophalia.

Dr. LeDoux mentioned the fact that we find bloody-tinged spinal fluid in some cases. I believe that in so far as spinal punctures are concerned, more stress and more importance should be attached to the degree of pressure exhibited by

the spinal puncture than to whether or not we have a bloody tinge or not, because first of all you may have a contamination, and in the second place you may have a supra-tentorial hemorrhage of larger extent which is causing pressure to increase the pressure in the spinal canal and yet no blood has found its way to the spinal canal, unless you do that spinal puncture late. I mean by late, after two or three days, certainly after seventy-two hours.

I appreciated Dr. Caldwell's remarks concerning the treatment and I believe the most important phase of these papers is that it will enable us to be more careful in the future and to help, not those who are already crippled, but those who are going to come into the world in the future.

In conclusion, I want to mention something about symptoms of cyanosis. Marked cyanosis is found only in cases of hemorrhage of the infratentorial type. In cases of hemorrhage within the brain substance itself the most characteristic feature, in so far as cyanosis is concerned, is the appearance of a particular mottling, giving the child the appearance of the body's having been chilled. Not that you have a constant cyanosis, nor do you have that marked pallor that Dr. Bloom so well brought out, but a very peculiar mottling in spite of the fact that you may have your child in an incubator, well protected. The appearance of the body is as though exposed to a chill.

Dr. Bloom (in closing): I appreciate the various remarks made regarding the important subject and I will not attempt to answer the questions that Dr. Signorelli has so ably handled, but in response to Dr. Caldwell's question, to show you the effect of an early interpretation of intracranial hemorrhages in the newly born, I wish to present this as one of the cases mentioned where an early diagnosis was made on the second day (showed a picture). Some of the father's blood was given subcutaneously twice. This child is one year old and normal in every respect.

There is another child (picture). We had to do four spinal punctures. We gave three subcu-

taneous injections of whole blood from the father. The child is two years of age and perfectly normal in every respect.

This is another child (picture) that was not treated at birth and is today an epileptic. He is normal in most respects, with the exception of spasticity, and has frequent convulsions which cannot be counteracted—but can only be relieved.

And this is a contract (picture). A hopeless case such as Dr. Caldwell referred to where perhaps orthopedic intervention might materially assist the motor functions but will not in any way help the sensory functions.

In response to Dr. Thiberge's inquiry, the method of making spinal puncture in the infant is no different, perhaps, than in the adult, except that the vertebrae are anatomically much closer together. In infants the needle is placed at right angles to the axis of the vertebrae, and in the older child we try to go in from the side at an acute angle.

In response to Dr. Carruth's few words regarding the difficulty he has seen associated with pituitrin although his personal experience has been with only one case, we must take into consideration that the head in its passage through the uterine canal must become smaller in cranial volume. If suddenly the fluid is expressed through the ventricles and through the foramen from the lateral ventricles, and the lymphatics proportionately are emptied and the blood expressed is from the brain into the spinal canal we can well visualize what can result.

This chart gives you the extreme type of the intracranial hemorrhages of the newly born (displayed chart). On the fifth day the child had a temperature of 106 3/5. This child's most pronounced symptoms was vomiting. As a matter of fact, for seven days we kept this child alive on subcutaneous injections of five per cent dextrose. He had frequent convulsions, vomiting every bit of food given. The child left the hospital on the twenty-second day, having an increase in weight, and through the administration of whole blood given three times and two spinal punctures is today apparently normal.

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*** OTHERS NOTE IT, TOO.**

Anent our editorial in the November issue, entitled "Legal Restrictions," in which we described the tendency of the times to practice medicine more by laws, department rulings, record keeping, etc., rather than by scientific knowledge and common sense, we note, with pleasure, the fact that the Journal A. M. A. does not hesitate to show the ridiculousness of the situation, whenever the occasion warrants. In its Vol. 87, No. 19, under the caption "New Ruling on Liquor Prescriptions," it calls attention, editorially, to the way in which the Prohibition Commissioner or the Commissioner of Internal Revenue suddenly reverses his rulings as to the manner of filling out liquor prescriptions; in the

instance specifically referred to, doctors are now instructed to leave name of druggist blank, whereas, formerly, to do so would have invalidated the prescription—this previous ruling in spite of protests, at the time, of the American Medical Association.

This is but one small item, but it is our intention, from time to time, to call to the attention of the medical profession some of the unnecessary formalities and "red-tapism" from which we are suffering.

DR. MORRIS FISHBEIN'S VISIT.

The medical profession in particular, and the citizens of Louisiana in general, will be hosts this month to a most famous and eminent medical officer and journalist in the person of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association.

Dr. Fishbein's attainments and experiences in medical teaching, medical writings and other prominent activities, pre-eminently qualify him as one of the most famous medical authorities in our country. His appearance in our midst, as a representative of the national medical organization, should be heralded as quite an epoch in our medical progress.

The Committee and Officers of our State Society, responsible for such a treat, are to be congratulated on their wisdom and foresight in inviting such a personage to our State; by which it is attempted further to edify our medical organization and to instill in our members a closer realization of the ideals of our National Society. His appearance and addresses in our State are therefore fraught with most unusual possibilities; resulting in greater accomplishments and progress for medicine and medical organization. This will include a more thorough vision of the principles embodied in medical organization and a review of future possibilities; well exemplified by him, as it relates to the physician personally and collectively.

It has been a long, long time since the American Medical Association has honored our State with the vistration of one of its representatives for such a purpose. It is anticipated and expected that he will find in the physicians of Louisiana the ever willingness to assimilate and profit from the dispensation of his wisdom and experiences; that we may demonstrate most forcibly, that while the medical profession of our State has performed notably in the past, there is ever present a most fertile field for the sowing of seeds to mature in continued development of medical usefulness, and thus rightly assume our just responsibilities in making our profession grander and more worthy of its tradition.

CORRESPONDENCE.

Dr. H. W. E. Walther, Editor,
New Orleans Medical and Surgical Journal,
1326 Whitney Central Building,
New Orleans, La.

Dear Doctor Walther:—

While talking with our good friend, Dr. Frederick L. Hoffman, Section Preventive Medicine, on the afternoon of the 17th, I told him of the tribute paid Doctor Matas the other evening at Tulane Medical College, and suggested he write a poem for the *New Orleans Medical and Surgical Journal*.

On the back of an envelope, he penned the enclosed which I send you with the hope it will appear in the next issue of the *Journal*.

Cordially yours,

OSCAR DOWLING.

Nov. 19, 1926.

DEAR DOCTORS:—

You will find further over in this issue a cordial invitation to you to attend a meeting of one of the few societies which is really profitable both to men in general work and those engaged in special lines. It has no sections and every address is pointed at the weak point in the whole scheme of the practice of medicine. That is, as you have often thought, the border line where general medicine and the specialities meet.

The Tri-States Medical Association of Mississippi, Arkansas and Tennessee meets in Memphis, February 1, 2, 3, 1927. For absolute quality the program to be presented has never had a superior at any medical gathering in the South. That is a calm statement of fact—not boasting. Several have had more bulk but few have ever approached it in worth. It means an intensive, varied postgraduate course you can't afford to miss!

Yours Sincerely,

A. F. Cooper, M. D. Secretary.
Bank of Commerce Building,
Memphis, Tenn.

DR. MATAS AND THE BIGELOW MEDAL

RUDOLPH MATAS,

MASTER OF SURGERY.

*Son of the Latin Southland
Son of a sunkissed soil,
Born to the purple but man of choice
To a life of arduous toil,
Known to all as a surgeon
Master of exquisite skill,
Saving the lives of the dying,
Comforting, aiding the ill.*

*Friend to all who are struggling,
Kind to the lowly and poor,
Generous host to those who pass
Through his always open door;
Versed in all arts and in science,
Gifted with grace and with tact,
In peace and in war in the forefront,
Never afraid to act.*

*Teacher of countless students,
Medicine's proudest boast,
Leader in every movement
In matters that count the most.
Beloved by all who know him,
Rich or of slender means,
The pride and the joy of the city
Of beautiful New Orleans.*

*May he live long and be happy
Wearing the laurel he's won,
Sorrow will fall on the city
When in time his labors are done.
But enshrined in the hearts of the people
Will be the name of the surgeon who was,
Live on forever and ever,
The deathless fame of MATAS.*

FREDERICK L. HOFFMAN.

Atlanta, Ga., Nov. 18, 1926.

"Honor and reverence and the good repute
That follows faithful service as its fruit,
Be unto him, whom, living, we salute!"

To fully appreciate the meaning of the Bigelow medal, one should be firmly planted upon Plymouth Rock, preparatory to diving deep into the flowing tide of early Americanization. So far back as 1640 there were Bigelows in New England. Massachusetts and Bigelow, even in colonial and revolutionary days, had become synonyms. Whether it might be medicine of the soul

or of the body, they had dispensed it freely. As we have no less an authority than Dr. Matas himself for stressing the value of a "clean" ancestry, it does not seem unbecoming to acknowledge that this long line of Puritan progenitors offered much to their offspring that would inspire lofty ideals and perpetuate noble character. There is no doubt that the Bigelow descendants lived worthily of their inheritance!

Dr. Henry Jacob Bigelow was the son of a father no less exalted than was his distinguished son. Read the essay entitled, "Jacob Bigelow," which is to be found in that most charming collection of Surgical Memoirs from the pen of another noted Boston surgeon, James Gregory Mumford. It will give the student a great deal that is profitable in the way of human example and knightly conduct. The son of such a father could not have hidden his "light under a bushel" even had he been so disposed. The flaming tongue of Pentecost had baptized him with the gift of gracious speech, and his luminous presence flashed across the cold, clear Boston firmament in meteoric splendor. According to our peerless medical historian,—Fielding Garrison,—the younger Bigelow was, during his lifetime (1808-1900), "the leading surgeon of New England." Those of us who are at all familiar with the medical history of the New England of that period should know something, at least, of the magnitude of this compliment. But, to Henry Jacob Bigelow, there came at length that inevitable "rest" which puts an end to mundane labors and which brings unto the Prophets and Saints of ancient and modern times a "peace which passeth understanding," as they answer "Adsum" to God's call unto their permanent abiding place in the repose of His promised land.

Seen no more of men, Henry Jacob Bigelow continued to dwell in the hearts of his fellows. To Boston, with its Harvard and

its Massachusetts General Hospital, such as he could never die. In memory of all that he had been and in assurance of all that he must continue to be, in 1915 his son, Dr. William Sturgis Bigelow, established, as a fitting memorial, THE BIGELOW MEDAL. This he offered as an award to that member of the medical profession making the most distinguished contribution to SURGERY.

Twice only had this signal distinction been conferred when, upon the Day of All Saints, November 1, 1926, our own Rudolph Matas became its third recipient. To us, who see only through our mortal eyes, how distressing it appears that shortly before this presentation Dr. Sturgis Bigelow had passed on!

In 1921, Dr. W. J. Mayo of Rochester, Minnesota, had been the first to be offered this noble token. Dr. Mayo needs no introduction to a New Orleans audience, for does not every schoolchild in the Crescent City know that it is he who proclaimed *our* Dr. Matas, "the most learned surgeon in America?" Dr. W. W. Keen of Philadelphia, distinguished for countless publications and brilliant surgical procedures, author of America's greatest and most popular System of Surgery, was second choice, being awarded the prize in 1922. Note, it is a chapter in this same mammoth achievement concerning which the British Medical Journal has this to say: "In volume 5 occurs a monograph of 350 pages on the Vascular System, by Rudolph Matas, which is *in itself enough* to make the book indispensable to general surgeons."

No wonder, then, that Boston, in judgment clear and crystalline as a flawless diamond, has recognized the fact that south of Mason and Dixon's line there has arisen a Light which is shedding the genial beams of hope and healing across the dark waters of hitherto dangerous and well nigh fatal surgical explorations!

In all the warmth and poetry and color of his semi-tropical environment, this great

High Priest of Southern Surgery stood wrapped in his glowing personality and received the honor due.

He comes back to his own people, having added to the iridescent gems of his jeweled breastplate the diamond star of America's far East, and he brings to the city of New Orleans the same tender, humble, loyal, human heart, beating in unchanging devotion beneath the folds of his ceremonial vestments.

* * *

After the foregoing, it requires no extraordinary gift of imagination to see in the life of Professor Matas much, which, even to a casual reader, suggests kinship to a Prophet of the Living God. Ever since that mystic moment when into the nostrils of his creature, Man, Jehovah blew the breath of life, there have walked among their fellows those in whom even the most degraded of the species discern something peculiar, something different, from the homogenous mass of clay puppets. Such men appear to have a divine appointment, a mission to perform. Call it by whatever term the various stages of orthodoxy and heterodoxy may prefer, it never fails of recognition and, sooner or later, its effects are felt. Pasteur called it, "the God in Man,—Enthusiasm,"—and it is, indeed, just that. A life so full of inner beauty, so busy with well-doing, so oblivious of selfish motive, so truly consecrated to human uplift, it must surely be a re-incarnation of that Love which the Seer of Patmos tells us is only another revelation of God Himself.

To us who "know Dr. Matas best and love him most" (children, too, of that sacred soil whence he sprang) his whole life seems but a symbol of those ancient chieftains whose glory is so poetically sung in sacred and secular story.

Born at the very moment when the Old South was upon the eve of a momentous and fearful experience, his parents (recent transplants from Catalana, Spain) carried



the young child back to Europe and reared him, during those first years of life, in the motherland of their adopted Louisiana. Not to estrange him from his native country, but to have him taught those things which were to fit him for citizenship in that New South wherein he was destined to play so glorious a role.

Withdrawal from the narrow limits of hereditary prejudice, restricted horizon, and sectarian boundary, seems to be the natural method of training leaders or prophets:—Joseph, in Egypt, succored his starving brethren; Moses from the palace of an alien princess, led his nation across the Red Sea and bequeathed humanity its imperishable decalogue; Daniel, escaping from the snares of political enemies, ruled wisely through four foreign dynasties and bestowed upon literature "the apocalypse of the Old Testament." So, through the ages, until, after a long period of fasting and prayer, Light shone upon the darkness of human understanding and earth witnessed the dawn of a spiritual kingdom destined to supplant the vast empires of material concern.

Returning to Louisiana shortly after her remnant of invincible heroes had wrested their altars from the sacrilege of an impious invader, young Rudolph Matas brought with him the old aspirations of a day well nigh forgot by her older sons, in their remembrance of so much recent oppression. The newcomer, doubtless, lost no opportunity for infusing fresh hopes and energies into an impoverished and suffering community. The seventies were years when the sorrows of a Lost Cause were still acute, days when,—to quote that veteran of military and educational operations, Stanford Emerson Chaillé,—"The criminal effort was made to defy nature's law of the survival of the fittest . . . awful years of reconstruction, when the sole comrades men envied were those dead on the field of battle, and when to *live* was a far more grievous fate than to have *died* for Dixie."

Almost at a glance, New Orleans knew the youthful student for her own and rejoiced in his loyal sonship. Quietly, unassumingly, his gospel of health and healing made its way. The touch of the "Son of the Soul" fell gently, kindly, sympatheti-

cally upon the wounded heart of humanity, and he became what he shall ever remain,—“The best loved Surgeon of the South-land.” Surgeon? Child!—for no citizen of our times has so truly established a claim to universal affection, no wrought so good a work upon us; He has sweetened the cup of bitterness with his gentle reasonableness; has given balm to the broken hearted of his own unstinted sympathy; sight to the blind, from his catholic vision; motion to the crippled, from his swift understanding,—what has he *not* done to alleviate mortal misery and to bring about the solidarity of the races of mankind?

Not at all strange is it, then, that “Those who know him best and love him most” should have gathered in those old halls where, for so many consecrated years, he has performed his sacramental duties. No wonder that there came together “all sorts and conditions of men” to do him signal honor, and that the proud city of New Orleans rose with one accord to greet its Good Physician!

Such a representative audience as had never before assembled in the Hutchinson Memorial voiced admiration and affection for this, the most distinguished son of Louisiana,—unanimous in a sense of personal obligation. Rich, poor, high, lowly, all joined in one loving service and partook of a common communion. For he, the Victor, laden with the spoils of conquest acquired in cities afar from the scene of his quiet ministry, had come back home, “unspotted from the world,”—still clad in all the simplicity of a life of love, of honest purpose, unflinching integrity, and deathless loyalty!

It is said that the true test of character is not so much poverty as prosperity. If this be true, and who doubts it?, how generously does Rudolph Matas measure up to the ideal standard. Success, honor, hosanna, affect no change in his faithful heart, his filial attitude!

We hope that it pleased him to stand that Thursday evening of Armistice Day, 1926, in the midst of the people of his native State, listening to the eulogies of, “Those who know him best and love him most.” In that large audience he must have noted friends, admirers, scores of them,—all glowing with the pride of his accomplishment. He did see, and not without profound emotion, that grand old Man of Medicine, the Gladstone of Southern Gynecology, Dr. Ernest S. Lewis, sole survivor of those well beloved teachers of whom Dr. Matas spoke in touching and warm appreciation.

Dr. H. B. Gessner, close friend and first assistant throughout long years of devoted attachment, presided over the meeting and introduced the speakers, his pent-up feelings plainly showing through his dignified demeanor and well modulated tones.

Dr. Erasmus D. Fenner, mellow of voice and master of English rhetoric, as well as dean of Southern orthopedics, spoke for the medical profession. His eloquent address recalled to the older members of the audience all the personal charm and cultured oratory of his own father,—the gallant captain of Fenner’s Battery, C. S. A., and for so many years the chief ornament of the Louisiana Supreme Court.

Mr. Chas. E. Dunbar, Jr., representing the citizens of New Orleans, was most happy in his incisive, brilliant phrases, so full of convincing argument and as comprehensive as concise.

Last, though far from least, Miss Grace King, historian and novelist, in the name of “New Orleans, the Place and the People,” presented that watch which, for all time, shall tell Dr. Matas that the heart of this city beats true to that “Son of the Soil” whose flaming scapel “neither moth nor rust shall corrupt” and whose glorious name, even while he yet lives, flashes in the constellation of immortality!

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of November there has been held one meeting of the Board of Directors, one Joint Clinical Meeting with the Charity Hospital Staff and one Scientific Meeting. The Stanford E. Chaille Oration which was to be delivered on November 8th, 1926, was postponed until a later date on account of the illness of the chosen Orator, Dr. Allan O. Whipple of New York. This date will later be announced.

Dr. Roy H. Turner and Dr. Willard Wirth were elected to Active Membership. Dr. George C. Batlora was reinstated to Active Membership.

The Joint Clinical Meeting was exceptionally well attended. At this meeting cases of interest were presented by Drs. W. J. Otis, Ralph Hopkins, J. Birney Guthrie, A. E. Fossier, H. Theodore Simon, J. A. Danna and W. A. Reed. Stenographic notes of these cases will be published in a future edition of the *Journal*.

Eleven Delegates to the Louisiana State Medical Society and their Alternates were elected at this meeting. The Delegates with their respective Alternates are as follows:

<i>Delegates</i>	<i>Alternates</i>
Dr. Emmett L. Irwin	Dr. W. D. Phillips
Dr. Urban Maes	Dr. Lucien LeDoux
Dr. Marcy J. Lyons	Dr. S. Hobson
Dr. L. L. Cazenavette	Dr. C. G. Cole
Dr. L. A. Fortier	Dr. Chas. F. Gelbke
Dr. F. J. Chalaron	Dr. Adolph Jacobs
Dr. J. Birney Guthrie	Dr. Fred L. Fenno
Dr. H. W. Kostmayer	Dr. John Signorelli
Dr. H. Theodore Simon	Dr. Henry Daspit
Dr. Maurice J. Gelpi	Dr. P. Graffagnino
Dr. H. B. Gessner	Dr. J. A. Danna

At the Scientific Meeting held November 22nd, 1926, papers were read and discussed as follows:
 "Low or Cervical Cesarean Section"

By.....Dr. Hilliard E. Miller
 Discussed by Dr. E. L. King

"The Passing of Malaria"

By.....Dr. C. C. Bass
 Discussed by Dr. F. M. Johns and Dr. Chaille Jamison

"Recurrent Duodenal Obstruction." Report of Five Cases.

By.....Dr. Jos. A. Danna
 Discussed by Dr. A. L. Levin

At this meeting nominations were in order for Officers for the ensuing year. The following nominations with their endorsers were received:

President—Dr. A. E. Fossier, endorsed by Drs. L. Mitchell, J. A. Henderson, J. T. Crebbin, H. E. Nelson, and T. A. Maxwell.

President—Dr. Randolph Lyons, endorsed by Drs. Chaille Jamison, H. W. E. Walther, H. W. Kostmayer and B. A. Ledbetter.

First Vice-President—Dr. John F. Dicks, endorsed by Drs. B. A. Ledbetter and Chaille Jamison.

Second Vice-President—Dr. C. Grenes Cole, endorsed by Drs. Chaille Jamison and B. A. Ledbetter.

Third Vice-President—Dr. E. L. King, endorsed by Drs. H. W. Kostmayer and Paul J. Gelpi.

Secretary—Dr. H. Theodore Simon, endorsed by Drs. Chaille Jamison and Geo. R. Herrmann.

Treasurer—Dr. John A. Lanford, endorsed by Drs. H. W. Kostmayer, Jules E. Dupuy and Paul J. Gelpi.

Librarian—Dr. Daniel N. Silverman, endorsed by Drs. Jules E. Dupuy and H. W. E. Walther.

ADDITIONAL MEMBERS BOARD OF DIRECTORS.

Dr. Leopold Mitchell—Endorsed by Drs. Monroe Wolf and T. A. Maxwell.

Dr. Maurice J. Gelpi—Endorsed by Drs. Chaille Jamison and Geo. H. Upton.

Dr. Emmett L. Irwin—Endorsed by Drs. Chaille Jamison, Jules E. Dupuy and George Upton.

Dr. Fred L. Fenno—Endorsed by Drs. H. W. Kostmayer and B. A. Ledbetter.

REPORT OF TREASURER.

October.

Actual Book Balance 9/30/26.....	\$2,356.39
Receipts during October.....	455.25

<i>Total receipts</i>	\$2,811.64
Expenditures	430.60

Actual Book Balance	\$2,381.04
Outstanding checks	226.00

	\$2,507.04
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Receipts since Bank Balance	62.50
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<i>Bank Balance: 10/30/26</i>	\$2,544.54
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REPORT OF LIBRARIAN.

October

Bibliographies have been prepared during October on subjects as follows:

Bicornuate Uterus (1915-26).
 Congenital Absence of Appendix.
 Cranial Injuries (1924-26 O. P. M. S.).
 Irradiation in Rickets (1923-date).
 Lipiodol in Pulmonary Diagnosis.

These lists have been placed on file for the use of the membership.

One case of journals has been prepared and sent away for binding.

116 volumes have been added to the Library. Of these 42 were received by binding, 65 by gift, and 9 from the New Orleans Medical and Surgical Journal. A note of titles of recent date is appended.

The Library has been the recipient of book gifts during the month from Dr. I. I. Lemann and Dr.

E. D. Martin, and Journals from Dr. Haidee Weeks and Dr. J. F. Oechsner.

NEW BOOKS OCTOBER, 1926.

Scudder: Treatment of Fractures. 1926.
 Thomson: Diseases of Nose and Throat. 1926.
 Blacker: Birth Control and the State. 1926.
 Dorland: X-Ray in Embryology and Obstetrics. 1926.
 Pool: Surgery of the Spleen. 1923.
 Savage: Ophthalmic Neuro-Myology. 1926.
 Edgar: Practice of Obstetrics. 1926.
 Muse: Psychology for Nurses. 1925.
 Trumper: Memoranda of Toxicology. 1925.

H. THEODORE SIMON, M. D.,
 Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

ITINERARY OF DR. FISHBEIN'S VISIT.

Monday, December 6th—

Shreveport, 4:00 P. M.—“Fads and Quackery,” (Doctors only).

8:00 P. M.—(General Public).

Tuesday, December 7th—

Monroe, 11:00 A. M.—“Business Ethics and Medical Ethics.”

Wednesday, December 8th—

Alexandria, 8:00 P. M.

Thursday, December 9th—

Opelousas, 2:00 P. M.—“Fads and Quackery.”

Lafayette, 7:00 P. M.—“Business Ethics and Medical Ethics.”

Friday, December 10th—

Baton Rouge, 10:00 A. M.—Doctors of Covington and District invited).

New Orleans, 8:00 P. M.—(General Public invited). “Twenty-five years of Medical Progress.”

Our President, Dr. S. M. Blackshear, Dr. H. B. Gessner, Chairman of the Journal Committee, other officers and active members of the profession will accompany Dr. Fishbein throughout the State on this tour.

Appropriate with the above itinerary, unusual plans have been made by the respective District Societies for the reception and entertainment of their guests. The physicians in each district should plan to attend the meeting to show their appreciation of this opportunity, and to have real enjoyment as a result of their attendance to this scientific and social repast.

EIGHTH CONGRESSIONAL DISTRICT.

The Eighth District Medical Society members were entertained by the President of the Society, Dr. Kirby Roy at his Palatial Home, Mansura, Louisiana, Monday, October 25th, 1926, 8 P. M. Physicians from all over district attended and the repast served by Mrs. Roy was exquisite. Splendid music by a local orchestra was rendered during the luncheon hour, which proved ideal and added so much lustre to the occasion.

Highly scientific papers were read. The first being “Parental Care,” by Dr. Marvin Cappel of Alexandria and the other on the subject of “Periodical Examinations” by Dr. J. T. Nix of New Orleans. The papers were very interesting and freely discussed by all members present.

Dr. S. J. Couvillon, Councilor for the district, mentioned the approaching visit of Dr. Morris Fishbein, Editor of the American Medical Association, who is scheduled to address the profession of the district on December 8th. The Councilor asked that 100 per cent of the District Society physicians assemble at Alexandria on that date to hear the distinguished visitor. The meeting then adjourned to meet at Alexandria on December 8th, at 7 P. M., in honor of Dr. Fishbein's visit, and at the same time to conduct the annual election of officers and payment of dues.

Extensive preparations are being made to entertain the distinguished representative of the American Medical Association.

LAFOURCHE VALLEY MEDICAL SOCIETY.

The Lafourche Valley Medical Society was the guest of the doctors of Lower Lafourche Parish in Lockport, on Wednesday, November 10th.

A splendid delegation of the New Orleans physicians were in attendance. Thirty-two doctors took part in the scientific meeting and enjoyed the banquet served at the Morvant Hotel.

RE-EXAMINATION.

The great importance of re-examination which is being stressed by the Medical Associations, including our own State Medical Society, is such that the Graduate School of Medicine of Tulane University, realizing how vital it is to the health of the present as well as future generations, has enlisted the services of Dr. E. A. Hogan to lecture on this subject in connection with his work in life insurance. Dr. Hogan is a member of the faculty of the Graduate School in the Department of Medicine, and his knowledge of health statistics especially fits him for this work.

Dr. Charles J. Bloom of the Graduate School of Medicine of Tulane University, addressed the members of the LaSalle Parish Medical Society at their meeting held Thursday, November 4th, 1926, Trout, La., the subject being “Intra-Cranial Hemorrhage of the Newly Born.”

Dr. Peyton R. Denman, an alumnus of Tulane University 1903, stopped off in the City returning from Montreal when he attended the sessions of the American College of Surgeons. The Journal of the State Society appreciates the visit from one of our distinguished surgeons of Houston.

WHEREAS: Our esteemed contemporary and friend D. J. L. Adams has departed this life, and

WHEREAS: We realize that in his death and passing we have suffered a great loss; also we appreciate the appropriateness of expressing to his family and the profession generally our love of the man, and our deep respect of his character and attainments,

THEREFORE: Be it resolved that,

This expression of our love and regard of our splendid friend be conveyed to his family; and to the profession through our Official Journal.

F. C. BENNETT, CHM.

R. W. O'DONNELL

T. E. WRIGHT

For the Ouachita Parish Medical Society.

A NEW LAW.

STATE OF LOUISIANA

ACT No. 327 OF 1926.

House Bill No. 512

By Mr. Fernandez

AN ACT

To require physicians, surgeons, dentists, druggists or pharmacists to inscribe the name of the patient on all prescriptions and labels; and to provide a penalty for the failure to comply with the provisions of this Act.

Name of Patient to be Written on Prescription.

Section 1. Be it enacted by the Legislature of Louisiana, That all physicians, surgeons and dentists, upon writing a prescription, shall first write the name of the patient on the prescription issued, and it shall be unlawful for any druggist or pharmacist to fill any prescription unless the name of the patient shall appear thereon.

Name of patient to be Written on Label of Package.

Section. 2. That all druggists and pharmacists, upon filling any prescription, shall first write or print the name of the patient on the label which shall be securely attached to the bottle, box or package containing the medicine or drugs prescribed.

Penalty.

Section 3. That it shall be a misdemeanor for any physician, surgeon or dentist to issue a prescription without complying with the provisions of this Act; and that it shall be a misdemeanor for any druggist or pharmacist to fill any

prescription without complying with the provisions of this Act; and upon conviction, shall be sentenced to serve not less than ten days nor more than thirty days, or fined not less than \$5.00 nor more than \$25.00, or both, in the discretion of the Court.

Section 4. That all laws or parts of laws in conflict herewith be and the same are hereby repealed.

Approved by the Governor: July 16, 1926.

A true copy:

JAMES J. BAILEY,
Secretary of State.



DECEMBER 1926 BULLETIN.

For the sake of humanity and for individual protection of every citizen of our State, the Christmas Seal Campaign of the National Tuberculosis Association, which is carried in Louisiana through its affiliated state unit, the Tuberculosis and Public Health Association of Louisiana, should have the support of every one.

The fight against tuberculosis has been most effective. During the last twenty years, the death rate has been cut in half.

Tuberculosis is one of the primary causes among diseases in producing death, lowering standards of living, endangering children in the preparation for life, and increasing the misfortune and distress which darkens family life.

The fight against tuberculosis made possible through the sale of Christmas Seals, has saved many lives and kept many families together that would otherwise be broken up.

The Tuberculosis & Public Health Association of Louisiana is endeavoring to be of great service to the community, and wage a more effective fight against this enemy in 1926, than ever before. It is entirely financed by the sale of Christmas Seals. Its continuance is only possible if those who receive the seals make their return donations. Through this annual December sale of Christmas Seals the Association has to raise sufficient funds to carry on its program for a year.

Local Units and Committees, in the parishes throughout the state, are organized for this big educational and financial drive. Thousands of posters urging support of the campaign have been sent out, and movies, slides and lectures will be used everywhere. Millions of seals are going out through the mails from the various local headquarters.

The fight against tuberculosis is a winning one. For many centuries this disease was thought to be one that could neither be prevented nor cured. When the organized campaign against tuberculosis was begun twenty years ago, tuberculosis took 200 lives out of each 100,000; this has since been reduced to less than 100. But there is still much to be done.

The Christmas Seal Sale is one in which every man, woman and child can help; by each giving a little we will be able to raise a fund which will make possible free clinics, health lectures, the purchase of health books, and Modern Health Crusade material for our schools, and other valuable health projects in our State.

The design of this year's seal is especially attractive. These Christmas heralds are pictures, jolly little jesters, singing a merry Christmas carol, and the shield which one of them holds before him bears the double-barred cross.

We should all buy Christmas Seals. There is no place where we could put our money to greater advantage or where it is needed more. It will be in keeping with the true Christmas spirit to give freely in support of this cause.

MEDICAL SOCIETY OF MISSOURI VALLEY.

The thirty-ninth annual meeting of this association was held in Omaha, Nebraska, under the presidency of Dr. A. D. Dunn, on September 15, 16, and 17, with an attendance of nearly 500, which filled the assembly room in the New Medical Arts Building to its capacity.

The program was an excellent one, largely contributed by University teachers, and most enthusiastically received. Plans for extending the scope of the Society were adopted, including the slogan "One thousand members in 1928."

The following officers were elected for 1927:

President—T. G. Orr, M. D., Kansas City.

First Vice-President—Fred Moore, M. D., Des Moines.

Second Vice-President—J. M. Patton, M. D., Omaha.

Secretary—Charles Wood Fassett, M. D., Kansas City (re-elected).

Treasurer—O. C. Gebhart, M. D., St. Joseph (re-elected).

An Executive Board charged with the affairs of the Association and the arrangement of the program, was appointed by the President as follows: Donald Macrae, Jr., M. D., Council Bluffs; J. M. Mayhew, M. D., Lincoln; Granville Ryan, M. D. Des Moines; J. E. Summers, M. D., Omaha; P. T. Bohan, M. D., Kansas City; T. G. Orr, M. D., Kansas City.

Des Moines was selected as the place of meeting, September, 1927.

SOUTHERN MEDICAL ASSOCIATION.

The following officers have been elected for the ensuing year:

For President—Dr. J. Shelton Horsley, Richmond, Va.

For First Vice-President—Dr. Frank K. Boland, Atlanta, Ga.

For Second Vice-President—Dr. A. A. Walker, Birmingham, Ala.

For Secretary-Manager—Mr. C. D. Loran, Birmingham, Ala., for a term of five years.

(The Editor of the Journal, Dr. M. Y. Dabney, Birmingham, Ala., was elected last year for a term of three years).

The Louisiana doctors, listed below were in attendance on the Southern Medical Association, at Atlanta, Nov 15-18, 1926.

Bastrop—R. L. Credille.

Bogalusa—J. H. Slaughter.

Clarks—S. G. Hines.

Lake Charles—S. George Kreeger.

Monroe—D. I. Hirsch, A. H. McHenry.

New Orleans—Kotz Allen, Wilmer Baker, C. C. Bass, Elizabeth Bass, J. W. Baxter, C. J. Bloom, Muir Bradburn, W. R. Buffington, H. W. Butler, Isidore Cohn, J. T. Crebbin, Oscar Dowling, H. Dupuy, Charles W. Duval, Allen Eustis, Hermann B. Gessner, J. B. Guthrie, C. S. Holbrook, S. C. Jamison, F. M. Johns, L. H. Landry, J. A. Lanford, Francis E. LeJeune, Isaac I. Lemann, A. L. Levin, R. C. Lynch, Randolph Lyons, Urban Maes, E. Denegre Martin, J. D. Martin, A. Mattes, T. A. Maxwell, R. W. Mendelson, C. J. Miller, K. E. Miller, J. H. Musser, Chapman Reynolds, E. C. Samuel, D. N. Silverman, S. K. Simon, W. A. Wagner, H. W. E. Walther, A. I. Weil.

New Roads—R. M. G. Carruth.

Plaquemine—R. R. Grant.

Shreveport—Jos. E. Knighton.

Slidell—F. R. Singleton.

Dr. C. R. Gowan, The Pines Sanatorium, Shreveport, attended the recent tuberculosis congress in Washington.

The recent death of Dr. Jesse B. Adams ("Bill," as he was familiarly called) of Monroe, was a shock to his many friends thruout the state and is a great loss to the medical profession.

Dr. Elliott P. Joslin of Boston, the eminent authority on diabetes, spent one day (Nov. 14th) in New Orleans, enroute from Birmingham, Ala., to San Diego, California. Dr. Joslin was accompanied by his wife and, as this was their first visit to New Orleans, it did not take them long to realize that their stay with us was entirely too short.

Beginning with the January, 1927, issue, The Radiological Review will be published monthly instead of bi-monthly, and it will increase its number of pages from 32 to 64.

As you know, this is the only Journal devoted to the progress of X-Ray and Radium from the standpoint of the general practitioner and the specialist in branches other than Radiology

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about Three Hundred Dollars, will be made on July 14, 1927, provided that an essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published. The essay should represent an addition to the knowledge and understanding of the subject based either upon original or literary research. They must be typewritten, and in English acceptable for publication without necessity for editing by the Committee. Any illustrations should be appropriate and correctly annotated with the text. Essays must be received by the Secretary of the College on or before May 1, 1927.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon

application within three months after the award.

The Alvarenga Prize for 1926 has been awarded to Dr. P. S. Pelouze and Dr. Frederick S. Schofield, Philadelphia, for his essay entitled "The Gamophague."

JOHN H. GIRVIN, Secretary,

19 South 22d Street, Philadelphia, Pa., U. S. A.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

JUNIOR MEDICAL OFFICER (INTERNE).

Applications for junior medical officer (interne) must be on file at Washington, D. C., not later than December 30. The examination is to fill a vacancy in the United States Veterans' Bureau Hospital, Camp Custer, Michigan, and vacancies in positions requiring similar qualifications.

The entrance salary is \$1,860 to \$2,400 a year without allowances, or \$1,260 to \$1,860 a year with quarters, subsistence, and laundry, the entrance salary within the range stated depending upon the qualifications of the appointee as shown in the examination and the duty to which assigned. To those whose services are satisfactory, and in the discretion of the appointing officer, there may be granted a salary increase of not more than \$600 a year at the end of the six months' probationary period required by the civil service rules, and at the end of eighteen months the salary of \$3,300 a year, without allowances, may be paid in the discretion of the appointing officer and subject to the existence of vacancies.

The duties, under immediate supervision, are to admit patients, take histories, make physical and mental examinations and record findings; to make ward rounds of inspection, note charts, record observations; to prescribe for minor ailments or for acute or emergency cases and to dispense medicine in emergency; to perform minor surgical operations and to assist at major operations and in redressing; to administer anaesthetics; to make routine laboratory tests and analyses; to assist at out-patient clinics in dressing and in administering vaccines; to keep records, make up case histories, answer correspondence relating to patients and compile statistics requiring medical training.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service

Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

SPECIALIST IN PATHOLOGY NEEDED AT KNOXVILLE, IOWA, HOSPITAL.

The United States Civil Service Commission states that there is a vacancy in a position of specialist in pathology at the Veterans' Bureau Hospital at Knoxville, Iowa, and that applications are being received for the position.

The entrance salary is \$3,800 a year. Promotion to higher grades may be made in accordance with the civil service rules.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C.

THE WORLD'S CHILDREN.

Weekly Notes on Child Welfare Topics Compiled by the U. S. Children's Bureau.

Child-Health Examinations, Chicago—148,000 children in the schools of Chicago were examined last year through the work of the Chicago Municipal Tuberculosis Sanitarium. 100,000 of the children were in kindergarten or first grade. 110,000 were found with defects serious enough to need treatment, and 43 percent of these received the necessary corrections of defects.

Food and Teeth—Nutrition is the most important factor in healthy teeth, Dr. Harold H. Mitchell, Director of School Hygiene, Fall, River, Mass., points out. Dr. Mitchell states that prophylactic and dental repair work will be necessary for a long time to come, if not always, but that good nutrition comes first in the dental program. He describes a week's campaign in Fall River which aroused the interest of teachers and parents in dental hygiene. Dentists, drug stores, newspapers, and health officials co-operated in the campaign.

Pan American Child Congress—The fifth Pan American Child Congress will be held in Havana, Cuba next February and will include an international child-welfare exposition. The Government of the United States has been invited to participate. The Congress will be divided into six sections, medicine, hygiene, sociology, education, psychology, and legislation.

Health Organization, League of Nations—The first annual report of the Health Organization of the League of Nations appeared in July, 1926. This body is authorized to "take steps in matters of international concern for the

prevention and control of disease." It consists of an advisory council correlated with the International Health Office in Paris, a permanent health committee of 20 members, and a health section which forms an integral part of the secretariat of the League. The health committee is the active body and is responsible for the technical direction of the health section.

The first task of the health organization was to collect and tabulate the official records of epidemic diseases from all countries where they are kept, and it expended much labor in securing uniformity and promptitude. Four commissions are engaged on such subjects as certification of causes of death, age and sex grouping, definition of stillbirth, and international standards for comparison of mortality rates. Bilateral sanitary conventions between adjoining countries also were established. Eleven special inquiry commissions studied the subjects of public-health training, malaria, cancer, tuberculosis, anthrax, smallpox, sleeping sickness, opium sera, and biological products. Eight interchanges of public-health personnel were brought about during the year.

POPULAR FOLDERS OF CHILD WELFARE.

The Children's Bureau of the United States Department of Labor is engaged in the publication of a series of folders which will give in popular form the results of the latest research in various phases of child welfare.

Four folders in this series have recently come from the press. The first is entitled "Sunlight for Babies," and describes the technique of giving the baby daily sunbaths. The second folder is called "Breast Feeding," and deals with the question of diet for the nursing and expectant mother, and with methods through which breast feeding may be made possible in most cases.

The third folder, "Community Care of Dependent, Delinquent, and Handicapped Children," outlines in simple form the methods through which communities can assist children in need of special care.

"From School to Work," the fourth folder, tells the story of a "typical" American boy and girl living in an imaginary community which trains all its children for the work they are best able to do, and then helps them wisely to select the right job. Vocational counseling, tryout shops, trade schools, scholarships, continuation schools, and efficient administration of child-labor laws are stressed in this folder.

The complete list of folders published so far by the bureau follows:

Folder No. 1—Minimum Standards of Prenatal Care.

Folder No. 2—Backyard Playgrounds.

Folder No. 3—Why Drink Milk.

Folder No. 4—What Builds Babies.

Folder No. 5—Sunlight for Babies.

Folder No. 6—From School to Work.

Folder No. 7—Community Care of Dependent, Delinquent, and Handicapped Children.

Folder No. 8—Breast Feeding.

Single copies may be had free upon request. Prices in quantity will also be given upon request. All the folders are illustrated.

SUPREME COURT UPHOLDS AMERICAN DRUGS.

A decision of the highest importance to every physician, pharmacist, drug manufacturer and, in fact, every user of drugs in the United States was rendered by the Supreme Court of the United States on October 11, 1926, when this highest tribunal of the Nation declared that the chemical Foundation had been acting legally and properly in the purchase of the foreign drug and chemical patents, during the War, and licensing American Manufacturers to produce these essential substances in this country.

The sale of the German patents to the Chemical Foundation took place during President Wilson's administration and had, without doubt, a distinct influence upon the outcome of the War, because this transfer permitted American concerns to begin at once the production of various drugs and chemicals which had, theretofore been made only in Germany, and whose importation ceased with our entry into the War.

President Harding, apparently laboring under some misapprehension as to the purposes and functions of the Chemical Foundation directed that suit be brought by the Government to set aside the sale of these patents to the Foundation.

The case was first tried in the Federal District Court of Wilmington, Del., and resulted,

after weeks of evidence taking, in a finding against the Government on all points.

The case was appealed to the Circuit Court, which upheld the decision of the District Court in every particular.

A final appeal carried the question to the Supreme Court of the United States, where evidence was heard more than a year ago. The long delay in rendering a decision has afforded time for mature consideration. The Court has decided unanimously that the sale to the Chemical Foundation was valid and legal and that the Foundation has made no improper use of the powers which it thus acquired.

This decision is a momentous one for everyone who has anything to do with drugs and chemicals in any way whatever.

To the physician it means that he will have a steady and regular supply of reliable drugs, of American manufacturers, which can never again be upset or cut off by the vicissitudes of war. The same considerations apply to the pharmacists. Among the vitally necessary drugs affected may be mentioned the arsphenamines, cinchophen, barbital, the flavines, procaine and a host of others.

To the drug manufacturer, who has invested thousands of dollars in apparatus for the manufacture of drugs and chemicals under the Foundation's licenses, it means relief from a certain degree of anxiety (though the outcome of the case could scarcely have been in doubt) and a tremendous inspiration to further investigations looking to the production of more and better drugs and chemicals for America.

To the nation at large, it means that reliable medicines will continue to be sold at reasonable prices; and, more or less indirectly, that the dye industry of America which is now in a flourishing condition, thanks to the Chemical Foundation, will be available for government uses should we become involved in another war.

Nor are medicine and pharmacy the only lines of endeavor affected by this momentous decision. The steel and packing industry and many others will be vastly benefitted by the freedom of chemical investigation and activity which is now assured them.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

ADDRESS OF FRATERNAL DELEGATE FROM LOUISIANA TO MISSISSIPPI STATE MEDICAL ASSOCIATION.*

The Chairman: We have with us a fraternal delegate from the Louisiana Medical Association, and we will be glad to hear from him at this time—Dr. John Smyth of New Orleans.

Dr. John Smyth (New Orleans): Some of us have just returned from the meeting of the Louisiana State Medical Society at Monroe, and I look forward to a most interesting and profitable meeting here. I cannot tell you how glad I am to be with you and to bring to you further assurances of our deep appreciation of the many ties which unite the medical fraternity of Mississippi with that of Louisiana. Many of these ties are the common ties which unite the sons of this Southland, sons of fathers who stood for a common cause, and these sons now working with a common purpose have, many of them, a common alma mater. Three hundred of the physicians and surgeons now practicing in your State are graduates of the medical department of Tulane University, and since the foundation of our beloved School of Medicine in 1834, 1082 of her alumni have been graduated from the State of Mississippi. Again, these two States have a common journal, the New Orleans Medical and Surgical Journal, which is the official organ of the Mississippi State Medical Association, the Louisiana State Medical Society, and the Orleans Parish Medical Society. Now with common destinies, common feelings, common hopes, and common aspirations, we are divided only by a boundary and a name.

Mississippi has always contributed to her people, to the nation, and to the world. The President of the Confederacy, looking for a home in which to spend the declining years of his eventful life, found it upon the balmy southern shores of the State of Mississippi. Professor Dr. Stanford Emerson Chaille, so long dean at Tulane, and whose memory now hovers as a halo over the medical department of that university, was born in the State of Mississippi. The first president of the American College of Surgeons, Dr. J. M. T. Finney of Baltimore, was born in Natchez, Mississippi.

Mississippi, including the members of your profession, sent her quota of officers and soldiers to the great World War. Many of these returned

with honors, distinctions, and decorations, while many were called upon to make the supreme sacrifice and received only a soldier's reward. To the mothers and fathers and loved ones of those who now rest in the cemetery at Arlington, may we proffer the hope and offer the prayer that as the sacred monument of Washington and the towering dome of our nation's capitol shall cast their shadows across the Potomac, may they ever a silent vigil keep while tear-dimmed eyes and aching hearts will watch and guard their sleep.

The late Sargent Smith Prentiss, silver-tongued orator of your great State, in his sorrow and humiliation over the loss of his seat in Congress, said: "Pluck from the nation's banner the star representing the State of Mississippi, but let the stripe ever remain as an emblem of her degradation."

Ladies and gentlemen, this star was not plucked from the nation's banner, but has remained to shed its soft and gentle light upon the activities, achievements and accomplishments of this association; and the stripe has remained—emblematic of the band that binds you to your sister association which I have the honor and privilege to represent here today, and with the increasing glory and brightness of that star and the ever-increasing strength of that band has grown the power, the influence and the usefulness of the Medical Association of the State of Mississippi.

The Delta Medical Society met at Indianola on October 13 and was entertained by the Sunflower county doctors. The program was as follows:

"Artificial Infant Feeding," U. S. Wasson, Moorhead.

"Diagnosis and Management of Pregnancy," C. W. Patterson, Rosedale.

"Treatment of Cataract," W. A. Stevens, Greenville (read by L. C. Davis in Dr. Stevens' absence).

"Diabetes Mellitus," G. W. F. Rembert, Jackson.

"Ectopic Pregnancy," L. B. Otken, Greenwood.

The following officers were elected for 1927:

President—T. W. Wilson, Arcola.

Vice-Presidents and Delegates—Bolívar county, W. C. Howell, W. M. Merritt; Leflore county, J. B. Bates, T. B. Hollomon; Sunflower county, J. W. Lucas, U. S. Wasson; Washington county, C. P.

*The Journal regrets the delay in publishing this part of the Transactions of the Mississippi House of Delegates, but due to some oversight it was only recently sent to the Editor.

Thompson, A. G. Payne; Humphreys county, G. M. Barnes, J. C. Higdon.

The next meeting of this society will be held in Greenville.

Central Medical Society held its regular meeting one week later than the usual date on account of the Mississippi State Fair.

Dr. J. Crisler and Dr. G. W. F. Rembert attended the Inter-Continental Clinics at Cleveland, Ohio, in October.

About seventy per cent of the medical profession from Jackson attended the Southern Medical Association in Atlanta.

Dr. May F. Jones of the State Tuberculosis Sanatorium addressed the Mississippi Tuberculosis Association at the meeting on October twentieth. This meeting was for the purpose of outlining the Christmas seals selling and other State association work.

Dr. Henry Boswell has returned from the Tuberculosis Conference in Washington.

The Sanatorium Sunshine Club held a bazaar in Jackson the first part of December. A unique feature in connection with this bazaar was a collection of autographed books donated by authors of note. The following authors were among those who sent volumes to the Sunshine Club: Edward Bok, H. L. Mencken, Henry Van Dyke, Joseph Hergesheimer, Ben Ames Williams, Irvin S. Cobb, Ring Lardner, Mary Johnston, Rupert Hughes, Ellen Glasgow, John Sharp Williams, George Anthony Zeller, William Percy, E. L. Lowe, Mrs. Dunbar Rowland, Louis Jiggit, and others. A valuable book was sent by the son of the late Francis Hodgson Burnett containing a large sheet of foolscap with both sides entirely covered with a book preface written in longhand by Mrs. Burnett.

Checks were sent to the club from many sources, among them being a generous check from Mme. Amelita Galli Curci.

Six hundred and ninety-one dollars was the sum realized from fourteen baseballs inscribed and contributed by nationally known baseball man. These balls were sold at auction during the world's series games.

The Clarksdale and Six County Medical Society held its fall meeting at the Elks' Club, Clarksdale, on Wednesday, November tenth. The following program was rendered:

1. Papers, S. T. Wells, Duncan, and T. G. Hughes, Clarksdale.

2. "The Common Cold," J. A. Slack, Friars Point.

3. "The Prevention of Deformity by the General Practitioner," Willis C. Campbell, Memphis, Tenn.

4. "Irregular Practice," J. B. Mitchell, Clarksdale.

5. "Conservative versus Radical Treatment of Paranasal Sinusitis," W. L. Howard, Memphis, Tenn.

6. "The Acute Abdomen," J. L. McGhee, Memphis, Tenn.

After the program a banquet was served at the Yellow Lantern in the Elks' Club.

Dr. Theodore Borroum, of Corinth, Miss., died suddenly on October 17, 1926. His death came as a shock to the entire community.

He was fifty-two years of age. He was a B. S. graduate of the University of Mississippi, a member of the Mississippi State Medical Association, and an ex-member of the Mississippi State Board of Health.

The North East Mississippi Medical Society will meet in Tupelo on December 21. The dentists, pharmacists, and trained nurses have been invited to meet with them and take part on the program. The chief aim of this meeting is to bring about a better understanding, a closer co-operation and more efficient team work among the professions in order to give better service to their clientele.

Dr. H. M. R. Faser, Dean of Pharmacy of the University of Mississippi, has already promised to take part on the program and Dr. C. C. Bass, dean of Tulane Medical School, is expected to address the societies.

The annual meeting of the Mississippi Tuberculosis Association was held in Jackson on Wednesday, November 20, in the parish house of St. Andrew's Episcopal Church.

Dr. Boswell, superintendent of the Mississippi Tuberculosis Sanatorium at Magee, discussed the meeting of the National Association and presented a number of new ideas.

Dr. J. F. Underwood, state health officer, discussed the significance of child welfare in public health programs.

Miss Mary Osburn, supervisor of public health nursing for the Mississippi State Board of Health, gave a talk on "The Public Health Nurse."

Dr. A. L. Emerson presented a standard program for a county tuberculosis association.

An interesting explanation of the examination of school children in the city of Jackson was given by Dr. J. B. Black, director of the Hinds County Health Unit.

SOUTHERN MEDICAL ASSOCIATION.

The following doctors from Mississippi attended the recent meeting of the Southern Medical Association, in Atlanta:

Aberdeen—Wm. J. Coleman.
 Agricultural College—C. B. Mitchell.
 Alligator—J. L. Nichols.
 Bay St. Louis—C. L. Horton, C. M. Shipp.
 Belmont—K. F. McRae.
 Biloxi—Wm. W. Eley, T. H. D. Griffiths. B. Z. Welch.
 Booneville—L. L. McDougal, W. H. Sutherland.
 Carthage—W. S. Martin.
 Coahoma—A. W. Rhyne.
 Columbia—J. Gould Gardner.
 Columbus—W. C. Brewer, P. K. Fite.
 Como—A. P. Alexander.
 Corinth—C. W. Norwood.
 Crystal Springs—F. F. Smith.
 Dixon—F. L. Brantley, Albert A. Majure.
 D'Lo—M. L. Flynt.
 Dundee—H. G. Johnson.
 Greenville—A. G. Payne.
 Greenwood—M. A. Barbour.

Gulfport—D. J. Williams, C. C. Jones, Chas. A. McWilliams.

Hattiesburg—C. C. Buchanan, Fern Champenois, W. W. Crawford, W. W. Hickman, J. F. Pou, Jr.

Houston—V. B. Philpot.

Indianola—C. J. Mancill.

Ittabena—L. H. Hightower.

Jackson—N. C. Womack, George E. Adkins, C. C. Applewhite, F. J. Underwood, James B. Black, Harvey F. Garrison, H. R. Hays, S. H. McLean, George Parker.

Laurel—R. H. Crawford.

Long Beach—W. A. Dearman.

Lumberton—George D. Mason, L. C. Rouse.

McCandy—E. K. Guinn.

Marion—R. E. L. Fowler.

Meridian—R. L. Turner.

Merigold—R. A. Haggard.

Natchez—W. H. Aikman, L. S. Gaudet.

Noxapater—T. F. Kilpatrick.

Oxford—J. C. Culley.

Pass Christian—D. G. Rafferty, Robert A. Strong.

Picayune—V. B. Martin.

Poplarville—J. W. Moody, R. R. Roberts.

Purvis—L. L. Polk.

Richton—Jos. E. Green, J. H. Newcomb.

Taylorsville—J. W. Stringer.

Tupelo—L. C. Feemster.

Union—Z. C. Hagan.

Vicksburg—Ike Knox.

West Point—F. C. Spalding.

Winona—T. W. Holmes.

BOOK REVIEWS

Art and Practice of Medical Writing: By George H. Simmons, M. D. and Morris Fishbein, M. D. Chicago, American Medical Association. 1925.

This little manual of 163 pages is the style and code book of the American Medical Association as used in its publications, notable for excellence of content and form. The various sections were published serially in the *Journal of the American Medical Association*, previous to their publication in book form. The volume comprises a valuable handbook for every medical writer.

Chapter headings indicate the scope:—An Acceptable Paper; Style; Subject and Material; Construction of the Manuscript; Words; Spelling; Capitalization; Abbreviations; Numbers and Figures; Prescriptions; Securing a Bibliography; Preparation of the Manuscript; Illustrations; Charts and Tables; Revision; Proofreading.

Dr. Simmons is Editor and General Manager Emeritus of the American Medical Association, and Dr. Fishbein is Editor of the *Journal of the American Medical Association*. The *Journal* can unqualifiedly recommend to its contributors, the study and use of this excellent manual of authorship.

MARY LOUISE MARSHALL.

Therapeutics, Materia Medica and Pharmacy: By Sam'l O. L. Potter. Fourteenth edition, revised by R. J. E. Scott. Philadelphia, P. Blakiston's Son & Co. 1926.

The fourteenth edition of any book does not require extended comment nor review. A book of this age has stood the test of time and the previous editions have proved satisfactory to a large number of physicians. The present edition shows no essential change from the principles adopted in the early editions. It presents in a brief and concise form data concerning various drugs. In addition to that, it contains about 120 pages on special therapeutics. This section contains a brief summary of the drugs that are used in the treatment of all diseases and disorders, and of many symptoms. The treatment necessarily is so short that it would be of little service except for suggestions for more extensive information and study. In addition to these sections, the book contains a large number of tables, printed regulations and so on which are of value for reference. Despite the fact that several pages are devoted to equivalent weights and measures in the apothecary and metric systems, the modern metric method has not been employed anywhere in the book, more's the pity.

J. H. MUSSER, M. D.

Roentgen Interpretations By George W. Holmes, M. D. and Howard E. Ruggles, M. D. Third Ed. Illustrated. Philadelphia and New York, Lea & Febiger. 1926.

This work of Holmes and Ruggles is well known to all Roentgenologists as a valuable and instructive book; it is now in its third edition.

The purpose of this book is to cover the essentials in roentgen-ray diagnosis, and it does this better than any similar work written in the English language. It contains more essential matter within its 300 pages, than many other books of larger size.

This book cannot be too highly recommended to the beginners and recent workers in roentgenology, as a splendid book of valuable information.

LEON J. MENVILLE, M. D.

Gould's Medical Dictionary: By George M. Gould, A. M., M. D., edited by R. J. E. Scott, M. A., B. C. L., M. D. Philadelphia, P. Blakiston's Son & Co. 1926.

The *British Medical Journal* says of the author, "Dr. George M. Gould is the Johnson of medical lexicography. His various dictionaries adapted to the needs of the student, practitioner, and scholar respectively, have had a commercial success that of itself is sufficient to prove their practical usefulness."

Important features noted in the dictionary are the clear bold type, the pictures, the biographical detail, and the many abbreviations now in use. It contains 76,000 words, about 5,000 of which are entirely new in this edition. Pronunciation is clearly shown by the phonetic arrangement of letters.

The dictionary is most usable and should prove itself a ready tool for the busy practitioner.

MARY LOUISE MARSHALL.

Osler's Modern Medicine: By Sir William Osler, Bart, M. D., F. R. S. 3d ed. rev. & ed. by Thos. McCrae, M. D., and E. H. Funk, M. D. Philadelphia and New York, Lea & Febiger. 1926.

V. 3—Devoted to Diseases of Metabolism and Diseases of the Digestive System.

This volume, like the two preceding volumes, has been completely revised and the subject matter made to conform with modern ideas.

The articles on Metabolism, Diabetes and other Metabolic disturbances are not only interesting but

instructive. The section devoted to diseases of the Digestive System covers the subject very thoroughly and will be found to be interesting reading.

J. HOLMES SMITH, JR., M. D.

Manual of Proctology: By T. Chittenden Hill, M. D. Philadelphia and New York, Lea & Febiger. 1926.

This second edition is a comprehensive revision of Hill's useful book. Written in a clear and concise way, and amply illustrated, it is a thoroughly practical work on Diseases of the Rectum.

MAURICE LESCALE, M. D.

The X-Ray in Embryology and Obstetrics: By W. A. Newman Dorland, A. M., M. D., F. A. C. S., and Maximilian John Hubeny, M. D., F. A. C. R., F. A. C. P. Saint Paul, Minn. Bruce Publishing Company. 1926.

This extremely interesting work covers its particular field thoroughly. Embryonic development is considered in detail, particularly the development of the skeleton, and the various anomalies are discussed. The methods which have been devised for the X-ray measurement of the diameters of the female pelvis (especially those of Chamberlain and Newell and of Thoms) are described, and different types of pelvic deformity are depicted.

The section on the X-ray diagnosis of normal uterine pregnancy is short but thorough. Abnormal positions, fetal monstrosities, and multiple pregnancies are now routinely diagnosed antepartum by the Roentgen ray, and interesting chapters on these topics are presented. The authors do not consider that the X-ray demonstration of the overriding of the cranial bones (Spaulding, Horner) is pathognomonic of intra-uterine fetal death.

In considering the medico-legal aspects of obstetric radiology, the author's cite the failure of a French surgeon to employ the X-ray as an aid in the differential diagnosis between pregnancy and fibroid, which omission led to a successful suit for damages (*l'affaire d'Evreux*). They hold that the operator "was negligent in failing to resort to every possible test in the presence of a diagnostic uncertainty."

A very timely chapter on the etiologic significance of the X-ray in teratogenesis is included. Now that so many fibroids are being treated by the ray, the effect of such treatment on an unsuspected pregnancy associated with a fibroid is a matter that deserves attention.

The book is of course profusely illustrated, especially the chapter on teratologic radiology. It is a pioneer effort in its particular field, and is a worthy exemplification of the modern tendency

toward correlation of the various branches of medicine.

E. L. KING, M. D.

Diseases of the Nose and Throat: By Sir St. Clair Thomson, M. D., F. R. C. P., Laud. F. R. C. S., Eng. 3d ed. New York, D. Appleton & Co. 1926.

This book first appeared in 1911 and was founded on a basis of physiology and surgical anatomy, which basis of presentation has been continued in the third edition. The chapter on embryology, in which various congenital deformities are explained, is very interesting. In discussing cocaine the author says "there is no department of practice in which the services of cocaine are so often required as in rhinology and laryngology." Remembering Loeb's recent work in this country investigating deaths following minor operative work in this specialty, his remarks will be found valuable and timely.

The chapters on the larynx are splendid and the illustrations which are so helpful to the student of laryngeal conditions, are excellent.

The author quotes:

"In this work, when it shall be found that much is omitted, let it not be forgotten that much likewise is performed."—Samuel Johnson, LL.D., Preface to his Dictionary of the English Language, 1755.

The much that likewise has been performed will be found exceedingly valuable to those of us interested in diseases of the nose and throat.

H. KEARNEY, M. D.

The Peaks of Medical History: An Outline of the Evolution of Medicine for the Use of Medical Students and Practitioners: By Charles L. Dana, A. M., M. D., LL.D. Illus. New York, Paul B. Hoeber. 1926.

The house of Hoeber again provides us with a precious medico-literary gem, in Professor Dana's "Peaks." The presentation, as the title implies, is very unusual and justifies its means by fulfilling nicely the practitioner's and student's sorely needed disideration, viz., a short yet moderately comprehensive history which can be consumed and digested at one sitting.

Because of the author's massive erudition, one might expect from his hand a detailed dry-as-dust product, but instead the reader finds a book of unusual charm, replete with that rarest of qualities in a history—humor. Add to this a succession of engrossing and instructive plates, many from inaccessible sources, and one cannot but feel that this volume is an ideal small history of medicine.

M. MALLOWITZ, M. D.

Defective Memory and Absentmindedness: Their Treatment: Arnold Lorand, M. D. Philadelphia, F. A. Davis Co. 1926.

This book is written in a very pleasing style and shows the author to be well versed in history and literature and a wonderful master of many languages—exemplifying in himself what a well-trained memory can accomplish. His digression to describe the Nomad brewing his coffee on the Arabian plains appeals particularly to the reader on account of the vividness of his description.

Of course, the most practical and from the medical side the most interesting part of the book is the chapter on how to acquire and retain a good memory, which is good and contains many valuable hints; but the most captivating section is the one explaining the difference between conscious and subconscious memory. Here the author excels himself and from that distinction builds up his method.

After mental pictures have been admitted by the will through the gateway of the conscious mind, they are stored in the subconscious mind as permanently stored up pictures which may be recalled at will or may rise up to the surface when the mind is relaxed. By this means the author explains the doctor's personality and the remarkable influence which he may at times exercise over his patient.

In the chapter on insomnia of brain workers, the reader may find valuable suggestions which are simple and very practical. The author objects to hypnotics and wisely recommends rest, salicylates and valerian.

Much space is devoted to the best method of handling diseases which cause damage to memory. First on the list is arterio-sclerosis, which by diminishing the blood supply disables instead of fortifies the brain cell; tobacco, alcohol and syphilis here work the greatest harm, the author's theory of the efficiency of iodids in these instances is that the viscosity of the blood is lessened. He advocates atophan as a great help for memory in the arthritics. The section on paresis is masterful but its chief feature is the clear description enabling the reader to recognize the disease in its incipency before it has damaged the memory.

According to the author, an absentminded man may yet be gifted with a good memory, but in a forgetful one the function is failing.

The key note of the treatment is attention, fixation, impression. Many valuable hints are given: repetition, association, clarity of impressions, concentration, avoidance of narcotics, performing all hard work in the morning and review-

ing on retiring (this transfer the work to the subconscious mind which never sleeps). Thyroid extract is recommended and a liberal but not an excessive use of coffee is advised as a useful help to memory. He also recommends strict attention to growing children at school, whose diet should be plentiful so that the brain cells may function and develop in a stable way.

In subsequent editions—which this book is certain to require—the allusion to religious subjects and characters may be left out with advantage and the treatment in some parts may profitably be condensed but the book as a whole is a very valuable addition to a doctor's collection.

NARCISSE THIBERGE, M. D.

La Grippe: Clinical—Prophylactic—Treatment: By Dr. Pierre Lereboullet. Ten illustrations. Paris, J. B. Bailliere et Fils. 1926.

Professor Lereboullet makes no attempt in this monograph to write a complete exposition of the subject nor to analyze the literature. He presents a study of influenza as he saw it in the great pandemic of 1918 and in the isolated cases that have occurred since that time. He embodies a great deal of useful and practical information on diagnosis and particularly on treatment. He is no therapeutic nihilist and does not believe that the disease should be allowed to run its course, with the treatment directed only to the alleviation of symptoms.

FRANCIS M. MUNSON, M. D.

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TREATMENT OF UTERINE FIBROIDS AND BLEEDING CASES, WITH PARTICULAR REFERENCE TO RADIATION METHODS.

CURTIS F. BURNAM, M. D.,
BALTIMORE.

The author desires to apologize for attempting to present two such wide subjects in this short paper. He will make no effort to do more than touch the high points, but hopes to give a picture of the principles which guide him in deciding on treatment in the patients he meets with in his daily practice, and also in some cases to indicate the reasons why his particular views are held.

Excessive loss of blood at the menstrual periods, or more or less continuous bleeding, is common from the onset of menstruation to its close. Its periods of greatest frequency are in the years just preceding the climateric, and in the years immediately succeeding the beginning of menstruation. All causes of bleeding due to organic changes in the pelvic organs must be excluded. The term bleeding case, or bleeding uterus, should be strictly applied to cases in which there is no gross pathology. They are caused apparently most frequently by disturbances in the ovarian function, or in the complex of functions of the internal secretory organs which give rise to hyperaemias of the uterine mucosa.

Some cases are due to hypervascularization of the uterine mucous membrane, although it is difficult to separate this group clinically from the first. A third cause is found in blood dyscrasias; such patients are rarely true bleeders and often do not show abnormally slow coagulation of blood in vitro; purpuric hemorrhages are common and blood platelets may be absent or nearly always are greatly reduced in numbers.

Whatever the cause, if the loss of blood is great, there results anemia with all its consequences; if the loss of blood is only moderate, as in many of the continuous bleedings, the psychic worries and physical discomfort of the patient, are usually enough to demand treatment.

The treatment in young girls is guided by decidedly different considerations than those which prevail in the older women; in the latter there is no objection to permanently stopping menstruation, while in the former the preservation of the menstrual function and the possibilities of conception are most desirable.

General hygienic methods, rest, good food, suitable exercises, and merely watching, are sufficient in many of the young girls to bring about a return to normal. This is, of course, particularly true in the milder cases. A most important, and, in my experience, little known fact is that local infections in remote parts of the body can cause this condition and maintain it against all general treatment and the special gynaecological curettage. In every

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case the tonsils, the teeth, and all other possible foci of infection, should be investigated. Cure by tonsillectomy is not uncommon. Where general measures fail, the next step is a thorough curettage. This often relieves the condition especially in young girls. There are many exceptions, however, to this satisfactory result. Repeated curettages, unjustifiable in older women, are sometimes effectual in the girls. A common statement is that the bleeding in these cases is due to or associated with a polypoid endometritis. In going over 15 successive cases to determine if this were true, only one definite case was found, in 5 others there was glandular hyperplasia, in 5 of the remaining there was normal endometrium, and in the 4 residual cases a marked reduction in the number of glands as compared with the normal findings.

Radiation to reduce menstruation or to stop it for a few months, should be limited to 500 millicurie hours. Under this dosage we have never observed a permanent amenorrhoea. The treatment is given intrauterine, in a single dose after curettage. In at least 50% of all cases a permanent amenorrhoea is not obtained by a gram or curie hour given in the same way. Where permanent amenorrhoea is aimed at, a gram and a half or a curie and a half hour treatment should be given, and this will be found effectual in nearly 90% of the cases. The return of menstruation is usually marked by a return to normal quantities of flow. Where the flow is excessive, a second treatment is quite effectual, and as a rule is better given transabdominally. Twenty grams hours divided into two portals, at a distance from the skin of 3 ins., without producing any erythema, are equally effectual as one and a half gram hours intrauterine. This treatment can be given equally well by deep X-ray, preferably with copper filtration, focal distance of 50 centimeters, and Kv. of 200 plus, 20 by 20 portals, front and back, and a light tanning dose.

Surgical treatment consisting of supra-vaginal hysterectomy, or wedge-shaped re-

ductions of the ovaries or uterus, or of high amputations, are all frequently employed and give satisfactory results. They are undesirable in the young patients and involve, in the older ones, much greater risk, longer convalescence, and more likelihood to complications than does radiation.

Our rule is, therefore, to advise radium intrauterine treatment under 500 millicurie hours in the young people, and in such others as have a desire to retain menstruation. As a matter of fact, the small dosage is not nearly so often successful in the older patients, and it is better with them to treat at the first sitting with the object of stopping menstruation permanently.

External treatment yields similar results but does not have the advantage of primarily acting on the endometrium, and means a considerably greater total treatment. Intrauterine treatment is especially desirable where only reductions in the flow are desired. It entails less possible injury to the ovaries and in our own experience is more likely to succeed.

Uterine fibroids are quite common as casual findings unassociated with any abnormal symptoms. A small fibroid, which is neither occasioning bleeding nor any pressure discomfort, had best be left alone. It is wise to advise the patient of the condition, record the size of the tumor, and at six-monthly or yearly intervals, examine to determine if it is remaining in *statu quo*. It often is. When the tumors are growing or have obtained large size, or when bleeding sets in, or when there is pressure on the rectum, or bladder, some treatment has to be considered. There are only two courses which can be followed, radiation or operation. There are wide differences of opinion among authorities as to the indications of these two methods. Those favoring operation point to the uncertainty of diagnosis, the possibilities of malignant transformation of fibroids, to the low operative mortality, to the desirability in young cases of preserving the

conception possibilities and in older ones the ovarian function. They would limit radiation to patients whose general condition is below normal or who have some special disability or disease, rendering anaesthesia and operation abnormally hazardous. The number of responsible people in this group is comparatively small; a very greater number of gynaecologists are inclined to place the small fibroids, by which is meant those in size not greater than a two-months pregnancy, in the same class as the bleeding cases where radiation is preferable to hysterectomy. The small fibroids in young women are excepted both from the wish to preserve the reproductive function and to avoid the discomfort of an artificial menopause. Pelvic inflammatory diseases, possibilities of ovarian new growths, other abdominal conditions, demanding operation, and uncertainty of diagnosis, are also indications that operative treatment should be selected. Many authors state that symptoms of pressure occasioned by an impacted fibroid is a positive indication that operation should be resorted to. There is considerable variation as to opinion of what constitutes a small fibroid. Some limit this definition to intrapelvic growths and others extend it all the way to tumors reaching the umbilicus.

Before taking up my personal views and practices, it seems desirable to state some of the well established facts in regard to fibroids and some of the consequences of radiation and operation.

Fibroids are much commoner after the third decade is passed, but are by no means uncommon in the third, and are sometimes met with in the second decade. They tend to produce, or at least be associated with, sterility. They vary greatly in rapidity of growth, and in the ultimate size they attain. There is a marked tendency to limitations in size, and most fibroids will never be large tumors. The most serious disturbance due to them is excessive menstrual bleeding or hemorrhages, and in a relatively small proportion of submucous cases, con-

tinuous bleeding. The large, abdominal tumors rarely cause the pressure disturbances met with in the impacted intrapelvic types. There is a marked tendency for fibroids to prolong the normal average menstrual life for several years. There is a tendency for fibroids to cease growing and to involute with the menopause; in rare instances they may disappear. Exceptions to this rule and growth after the menopause are not uncommon. Simple degenerations, particularly hyalin changes, are very common. In large tumors cystic transformation and very rarely abscess are met with. Genuine sarcomatous degeneration is rare, so rare as to be by some considered as practically non-existent. Malignant disease of the mucosa of the body of the uterus is not uncommon, but not more frequent than in non-fibroid uteri. It is safe to make the same statement in regard to adnexal malignancy and cancer of the uterine cervix. Adhesions and pelvic inflammatory lesions of a chronic character undeterminable by clinical methods of examination, especially in all but the smaller fibroids, are commoner than in non-fibroid uteri.

Myomectomy is limited in application to cases in which the tumor is single or at least not multiple. Its mortality rate is higher than that of hysterectomy. When done in cases where hemorrhage is a pronounced symptom, it often does not relieve this condition. There is also a marked tendency to recurrence, requiring further treatment. It does leave a distinct possibility of pregnancy and normal childbirth, but this is quite possible in many cases of fibroid uterus without preliminary myomectomy. Hysterectomy affords a permanent cure but ends any possibility of childbearing. It is accompanied by minimum mortality, in the best of hands, of 1%, and may be considerably higher, depending on the local and general conditions met with in any given series. Radiation is from the primary mortality standpoint a safe procedure; personally I have never met with a

case, and it is safe to put it at less than 1/10 of 1%. While it is not absolutely clear, it seems that the effect of radiation is from a two-fold direction, (1), through the ovary, (2), directly on the tumor. It is possible for a patient to become pregnant and give birth to a normal child after the cure of a uterine fibroid by radiation. It is a very rare occurrence for a fibroid to disappear completely from radiation without a cessation of menstruation. The persistence of menstruation in a fibroid case which has been radiated and which has not disappeared, is frequently accompanied by a re-growth of the fibroid. Contrasting with this, if a fibroid completely disappears and after a year or more of amenorrhoea there is a return of menstruation, the fibroid is very unlikely to grow again. It is evident from this that in treating fibroids, whether in young or old patients, that a full treatment is necessary in order to secure a complete result. It is of interest in connection with the hot flushings and other menopausal symptoms induced by radiation, that they are nearly always much less marked in young than in old patients. This observation was originally a great surprise but has been confirmed many times. These menopausal symptoms are often absent, or very trifling, from both the menopausal and oophorectomy artificial climacterics. They are not uncommon after hysterectomy where the ovaries are preserved.

An accurate pre-treatment diagnosis is more important when radiation is considered as a method of treatment than when operation alone is contemplated. An office examination should never be relied on in any case except those where anaesthesia could not be tolerated on account of some grave, organic disease. In every case an examination under anaesthetic with the use of the uterine sound and a thorough curettage should be made. It is never possible to exclude malignancy without this precaution. In any case where the diagnosis is in doubt, and where a reasonable hope of cure

can be looked forward to from surgical removal, it should be resorted to and radiation put aside. In very large tumors it is increasingly difficult to exclude ovarian malignancy, and when there is a history of very rapid growth it can almost be assumed. The presence of ascites and usually the presence of pain, is *prima facie* evidence of malignancy.

The association of pelvic inflammatory disease with fibroids is not uncommon. In the smaller tumors it is usually quite distinctly determinable by the history and by the physical findings. The occurrence of adhesions and old lesions in the larger cases is common and may entirely escape notice. Such conditions are, however, without practical bearing on the question of radiation, as patients with such complications do as well as the uncomplicated cases.

It is frequently impossible to differentiate adenomyoma from ordinary myoma, but this is more a question of pathological than practical interest, as both do equally well from radiation.

Hemorrhage is controlled in practically every case of uterine fibroids by radiation; as a rule, more rapidly by intrauterine than external methods; it is not as immediate in its effect as hysterectomy; often bleeding may take place in a period of from six to eight weeks after the treatment. A thorough preliminary curettage and the selection of the time for treatment immediately after a menstrual period, are the best means to minimize post-treatment bleeding. It is extremely rare that transfusions of blood are required in these cases, either as a preliminary or subsequent to treatment. Where hemorrhage has persisted over years, there is a tendency to aplastic anemia. Such patients require hospital treatment; rest in bed and transfusions in the extreme cases, just as when hysterectomy is done. In the ordinary case of intrauterine treatment, not more than seven days and rarely more than two of rest in bed, is necessary. No confinement

to bed is necessary where external treatment alone is employed. These patients, if not bleeding, are allowed to go along with their usual activities.

The effects of radiation on tumor are much more variable; in some the reduction is quite marked before the amenorrhoea is established; occasionally a tumor completely disappears in this two months period. In other cases the reduction is very slow, extending over many months and even years. Intrauterine radium radiation produces more rapid reduction than does external radiation, and is complete in a decidedly higher percentage of cases. At least 80% of the small fibroids disappear from it, and about 50% of the large tumors. Nothing in medicine is more surprising than the disappearance of a huge fibroid reaching above the umbilicus in the course of a year following a single or a series of radiations.

Calcified fibroids do not respond to radiation. They are usually suggested by a dense, hard feeling on bi-manual palpation, and can be demonstrated in X-ray pictures. These tumors also rarely show any tendency to grow. If they are symptomless the best treatment is to let them alone. They are not infrequently associated with pelvic inflammatory disease, and in such instances should be treated surgically.

Submucous fibroid, presenting at the cervix as a polyp when small, or as an inverted uterus when large, and sloughing fibroids, can and should be as a rule removed by vaginal myomectomy. When other fibroids are present after the removal, the same general principles as to operation or radiation apply as in other fibroid cases.

While intrauterine radiation is safe in all fibroids where there are no local signs of infection in the pelvis, or external genital organs, it is not safe in the presence of infection, and it should not be employed where definite masses in the appendages

are detectable. Such cases are likely to light up into acute processes. It is possible, especially by broken dose procedure, to radiate externally without running a serious risk in this way. This has been observed in a number of inflammatory cases which were treated to produce amenorrhoea on the assumption that the inflammatory masses relieved of the periodic menstrual congestion would heal better. As a matter of fact, such treatment must be given very carefully as it is possible to light up a chronic cases and to exaggerate an acute one by external treatment alone.

Incarcerated pelvic tumors causing pressure symptoms are nearly always associated with some inflammatory trouble, and are best treated by external radiation. In many of these cases splendid results are obtained; even when the growth shrinks only moderately the symptoms as a rule disappear. Often the effects on the tumor are very complete.

The situation of the tumor as subserous, interstitial, or submucous, is not of consequence so far as response to radiation is concerned, with the exception already noted.

TECHNIC

For intrauterine radiation we employ a series of radium tubes placed in a containing sound in tandem arrangement. The active portion of the applicator is about 2 inches long. The total filtration is 2 millimeters of copper or brass and 1 millimeter of beeswax applied as an even coating. Where complete and permanent amenorrhoea is aimed at, the dosage is $1\frac{1}{2}$ gram hours in the small fibroids and in all cases with short uterine cavities; where very extensive cavities are met with, in the large tumors this dosage may be doubled by moving the applicator to 2 or 3 different positions; where the uterine cavity is short, in large tumors the additional radiation above the normal average should be given by supplementing external treatment.

External radiation may be given either with radium or by X-ray. When radium is employed and a distance of 3 inches from the skin used, amenorrhoea can be secured by a total of 20 gram hours through several portals over the lower abdomen. Where very large tumors are present, this may be increased to 30 gram hours.

Where X-ray is employed it is of great advantage to use as high voltages and as great amperages as possible. The portals should be large enough to take in the entire tumor. We ordinarily employ a 20 by 20 cm. portal on the front and a similar one from the back. Using 240 Kv. and 40 Ma., and a focal distance of 50 cm. and a filter of 1 mm. copper, 1 mm. aluminum, and 3 mm. spongy rubber, 8 minutes total through each field is enough to produce an amenorrhoea and a slight tanning of the skin. There is never nausea or upset until several hours after the treatment. Where the full dose is given at a single treatment there may be several days of upset. A much more convenient method is to give at week intervals 4 minutes until the complete dose is obtained. There is no objection to reducing the time of the individual treatment to 2 minutes and treating twice a week. It is possible to secure equally good results with much lower voltages and thinner filters, but there is more likelihood of skin injuries and the constitutional effects are much more pronounced. With the technic above indicated, the whole procedure is easier and pleasanter both from the patient's and the operator's standpoints. I emphasize this because there is a widespread but erroneous idea that high-powered machines mean more disturbance to the patient than lower voltages and amperages. This, in spite of the fact, that high penetrations mean less absorption in the tissues which it is desired not to radiate and more in the tissues under treatment.

CONCLUSIONS.

I think it is obvious from what has been said that there are definite fields for opera-

tive surgery, for intrauterine radiation with radium, and for external radiation with either radium or X-ray, in the treatment of uterine bleeding and fibroid cases. Each case should be given most careful consideration and that method followed which seems logically to meet the necessity of the individual. It is a mistake, I believe, to lay down, or try to lay down, hard and fixed rules. The decreased primary risk of death, and the much less economic disablement, especially in those who must work for a living, are in favor of giving radiation a first position, especially as it in no way makes operation more difficult should this finally be necessary. This position may be altered by uncertainty in diagnosis, by complications associated with the fibroid, as well as by other intra-abdominal conditions to which no treatment can be applied but operation.

DISCUSSION.

Dr. Rudolph Matas (New Orleans): I simply want to say that a paper of this character, coming from the hands of Dr. Burnam, should not be allowed to pass by without at least a word of praise for the valuable information that he and the Kelly clinic have given to all of us.

I don't profess at all to be a Roentgenologist or Curietherapist, but, as a clinician I have had ample opportunities to know what radium and radiation can do. I don't know that there is any point of difference whatever in what Dr. Burnam has said with what my experience has taught me. I couldn't discuss the technical point at all and regret that the radiologists who were appointed to open the discussion are not here to assist in dealing with the technical side.

Clinically, I think that everything Dr. Burnam has said just emphasizes what we have learned by experience, and it would be very difficult to add anything excepting that I think we are learning more and more the relative value of intrauterine radium as compared with the extra-uterine X-ray radiations. I must confess I have very little confidence in external X-ray radiation. Judging from past experience with uterine and abdominal tumors a great deal of harm was done in the early days of deep X-ray therapy by one or two intensive or massive applications which had a devastating effect on the uterus and everything near it (intestines, bladder, rectum). I have seen most disastrous consequences but we are learning

more and more every day by a rapidly accumulating experience so that we are now becoming more skilled in the dosage and in the proper selection of cases.

I think that radiation in smaller or fractional doses which do not bring about disorganization, and the great necrogenic changes in the tissues that followed the old massive method, is an advance and that we may hope that radiation in this fractional way will effect good results in deep abdominal and pelvic neoplasms that are not accessible to radium.

There is no question in my mind of the great superiority of radium over the X-ray in the treatment of uterine fibroids and cancer. Here again we have learned the limitations of radium. When we deal with pure, uncomplicated intra-uterine fibromyomas, free from complicating pelvic infections, the results obtained by radium are wonderful.

Since we have learned how to use radium, its application to uterine fibroids has cut down a large percentage of our operative statistics and I am glad of it, too, as an evidence of progress in spite of all the success and relatively low mortality of hysterectomy. To those who were in the habit of treating all fibroids by operation in the pre-Curie days, it is difficult to see much or any advantages in the radium treatment. But with the notable exceptions of the very large impacted, subperitoneal, extra-uterine and complicated fibroids, the absolute benignity and success of radium in effecting a permanent cure when properly applied, is too great an advantage from the point of view of the patient to allow any personal prejudices to rule our conduct. This is particularly true of fibromyomas which involve the whole body of the uterus in which the question of sterility does not enter into the problem. In young women within the childbearing period, with great desire for progeny and in whom a simple myomectomy may still preserve the uterus for gestation, an operation has its advantages over radium. But in properly selected cases, there can be no doubt of the great superiority of radium. I am quite sure that in dealing with our own relatives we would always weigh the advantages of radium before considering a hysterectomy. On the other hand, allow me to emphasize that the indiscriminate use of radium is a most dangerous and reprehensible practice, more especially when tubal or other pelvic infections complicate the fibroid.

There is an immense amount of material here to talk about as the subject. Uterine fibroids is one which is familiar to every practitioner and affords large opportunities for a discussion of personal experience. But in the end we would ar-

rive at the well digested conclusions presented by Dr. Burnam. He has brought to this meeting the right gospel. He has brought to us the conclusions derived from his exceptionally large opportunities for observation, and in this way he and other distinguished experts most favorably situated for a comparative study of radium and surgery, are doing great good by teaching the profession how to discriminate between radiologic and surgical therapeutics in their application to individual cases.

Dr. H. W. E. Walther (New Orleans): It is hardly fitting for a urologist to encroach upon the gynecologist's field, but I feel that we are greatly indebted to Dr. Burnam for having brought us this message of the judicious application of radium in non-malignant growths of this type.

When radium was first given to the medical profession, the majority of the work where it was employed was in cancer, and the association from the beginning of radium in the treatment of malignant growths seemed to set a wall around this combination. Many up until the present time seemed to be blinded to the fact that radium has a broad field of usefulness in the treatment of neoplasms other than those malignant. I think that therefore the message should be taken to heart.

Dr. Burnam very ably brought out in the paper the harmful use of over-radiation, and that is one feature that the medical profession in this portion of the country, at least a great majority of them, still do not seem to appreciate. The judicious use of radium in therapeutic quantities does require study and thought. Many men who have radium today and are using it, appear to me to be using the agent with very little thought for the preservation of physiological functions of the organs radiated. I think Dr. Burnam very beautifully brought out that point, of trying to cure a condition but not leaving the patient permanently crippled in some function.

Personally, as I say, I have very little opportunity of invading this field except in a urological way, but we have seen a limited number of cases that have gone through the brunt of infections of the whole genital apparatus in the female, left with these bleeding conditions, that were cured by radium. I think that it has a decided field of usefulness here.

Dr. S. C. Barrow (Shreveport): I didn't, unfortunately, hear the doctor's paper, but I feel sure that I know what he said, having heard him before and having read his papers. I presume the paper covered the radiation treatment of

fibromatous hemorrhage which means radiation by radium as well as X-Ray.

The first case of fibroma that I treated was in 1914 and I begged that case with three others. This was a woman who had had a fibroid, necessitating a sitting posture at all times, for sleep as well as through the day, who had a cardiac crippled condition, and whose fibroid was the size of a twin pregnancy at full term. She was a relative of the doctor whom I persuaded to let me treat her. The fibroid was fixed, immovable, with general edema.

After one series, and at that time we were using comparatively speaking superficial radiation, the fibroid became very movable. We gave her six or seven series at intervals of thirty days and the fibroid reduced fully three-fourths its size.

We are using exclusively x-radiation in fibroids and hemorrhagic conditions of the uterus in women forty years old and older. In young women we naturally are selecting radium as the agent.

There is a good deal said about the kind of fibroid to be treated and the treatment of these conditions if they are not malignant. A subperitoneal or a submucous fibroid, if pedunculated, of course, should not be treated by radiation. A submucous fibroid if it has a broad base or free circulation, as well as an intramural.

I don't believe that the question today is one of operation or radiation. I believe it is a question of what *kind* of radiation, with the exception of a few cases where the indications are so very clearcut that an operation is the desirable thing. Our mortality is nil. Personally, we have never had an X-ray burn. I have never seen any nervous manifestations following the treatment of these conditions other than you would expect following a menopause that lasted only two or three months.

I am sorry I did not hear the doctor's paper and want to join in with the rest of the crowd in thanking him for coming this far.

Dr. Burnam (closing): I think that there is a very distinct difference between radium intra-uterine and radium on the abdomen or X-ray on the abdomen. In the first place, the reduction of tumor is much more rapid by the intra-uterine method and is complete in a much higher percentage of cases. The reports from abroad are that about twenty percent of the cases under x-radiation are completely cured, whereas we know that even in the large fibroids more than 50%, and in the small ones from 70% to 90%, completely disappear from intrauterine radiation.

It is true that one can give external radiation in inflammatory cases much more safely, and in fact the internal radium ought not to be given at all under such conditions. One should be guarded if there is infection, as well as with extreme anemias and low states. I think Dr. Matas has stated the problem very clearly.

We use an X-Ray machine which delivers 50 Ma., and 250 Kv., with which exactly sixteen minutes of exposure produces amenorrhoea, but we can hardly ever give full dose at one time without having the patient unduly nauseated and prostrated. Equally good results can be obtained by fractionating the treatment, and we reduce to fourths and often eighths or tenths to effect this.

I am very much obliged to the gentlemen for the considerate discussion and thank you all.

SURGICAL VERSUS NON-SURGICAL MANAGEMENT OF PLACENTA PRAEVIA.*

LUCIEN A. LEDOUX, M. D.,

NEW ORLEANS.

In dealing with this formidable complication of pregnancy and labor I wish to limit myself to the consideration of its management at term. The success of any treatment is largely dependent on the condition of the patient, the type of case, the judgment and experience of the attendant and finally prompt diagnosis and early treatment.

The ideal treatment is the one that preserves the life of mother and child; avoids blood loss and trauma and minimizes the danger of infection.

Any method of treatment which increases these hazards, or sacrifices the life of one or the other, cannot be considered as successful.

My results measured by the above principles satisfied me that my method of treatment in the past required some revision; therefore, I reviewed the literature of the past two years and studied the records of

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the Charity Hospital for the past twenty years, and am presenting them for your consideration.

Review of the records of cases of placenta praevia, Charity Hospital, New Orleans, period of January, 1906—January, 1926, exclusive:

During these twenty years, there were admitted a total of sixty-six (66) cases of placenta praevia. Of this number thirty-five (35) occurred in white, thirty-one (31) in colored patients.

Five (5) of this number were primipara, forty-five (45) were multipara and in fifteen (15) cases it was not stated. The maximum age was forty-six (46), the minimum was fifteen (15).

A negative history was furnished in forty-six (46) cases and it was not stated in twenty (20).

The types were represented as follows:

Marginal	20
Cervical	17
Central	17
Not stated	12

Delivered Normally—total (8 cases):

Maternal deaths	4
Fetal deaths	8
TYPES—Three (3) Marginal, the others not stated.	

Delivered Artificially—total (58 cases):

Maternal deaths	(15)
Fetal deaths	(22)
Fetal deaths not stated..	(2)
(Marginal	16
(Cervical	17
TYPES (Central	16
(Not stated	17

Methods employed—

Cervical and Vaginal pack—total (22 cases):

Maternal deaths	(10)
Fetal deaths	(15)
(Marginal	4
(Cervical	5
TYPES (Central	8
(Not stated	5

Puncture of Membranes—total (3 cases):

Maternal deaths	2
Fetal deaths	3
(Marginal	1
TYPES (Cervical	2
(Central	0

Manual Dilatation—total (9 cases):

Maternal deaths	(4)
Fetal deaths	(6)

(Marginal	2
(Cervical	11
TYPES (Central	5
(Not stated	1

Puncture of Membranes—total (3 cases):

Maternal cases	2
Fetal deaths	3

(Marginal	1
TYPES (Cervical	2
(Central	0

Manual Dilatation—total (9 cases):

Maternal deaths	(1)
Fetal deaths	(6)

(Marginal	2
(Cervical	1
TYPES (Central	5
(Not stated	1

Hydrostatic Bags—total (11 cases):

Maternal deaths	(1)
Fetal deaths	(8)

(Marginal	7
TYPES (Cervical	2
(Central	2

Version (Braxton Hicks)—total (1 case):

Maternal deaths	0
Fetal deaths	1

(Marginal	1
TYPES (Cervical	0
(Central	0

Version and Extraction—total (31 cases):

Maternal deaths	12
Fetal deaths	16

(Marginal	11
TYPES (Cervical	7
(Central	13

Forceps—total (7 cases):

Maternal deaths.....	2
Fetal deaths	4

High—2	(Marginal.....	3
Med.—2	TYPES (Cervical.....	4
Low—3	(Central.....	0

Vaginal Section—total (2 cases):

In conjunction with Version and Extraction:

Maternal deaths	1
Fetal deaths	1

(Marginal	1
TYPES (Cervical	1
(Central	0

Abdominal Section—total (16 cases):
Selective (14 cases):

Maternal deaths	4
Fetal deaths	2
(Marginal	1
Cervical	4
TYPES (Central	6
(Not stated	3

NOTE—One fetal death ascribed to torsion of cord about neck.

Abdominal Section (after handling, etc.)—total (2 cases):

Maternal deaths	1
Fetal deaths	1
(Marginal	0
Cervical	1
TYPES (Central	0
(Not stated	1

In Extremis (admitted)—total (8 cases):

Manner of delivery:

Normally	2
Rup. Membranes	1
Low forceps	1
Version and Extraction....	4
Maternal deaths	3
Fetal deaths	7
Not stated (fetal).....	1

	(Marginal	1
TYPES	(Cervical	4
	(Central	3

Infection following		DEGREES			
Packing	_____	_____	_____	_____	_____
Bags	_____	_____	_____	_____	_____
Rupture of Membranes	0 of 3	_____	_____	_____	_____
Version	0 of 1	_____	_____	_____	_____
Forceps	1 of 7	1+	_____	_____	_____
Manual dilatation	_____	_____	_____	_____	_____
Vaginal Section	1 of 2	1+	_____	_____	_____
Version & Extraction	3 of 31	1+	1++	1+++	_____
Abdominal Section	10 of 14	2+	4++	4+++	_____
(Selective)					
Abdominal Section	2 of 2	0	1++	1+++	_____
(after handling)					

I have always felt that a statistical report lacked full value unless accompanied by an analysis; in this case, regarding the different methods of treatment.

The majority of the cases reported were true emergencies, having been admitted with a diagnosis of active uterine hemorrhage; approximately half of the number having been tampered with before admis-

sion. The maternal deaths listed under normal deliveries resulted from hemorrhage; these cases being admitted in an advanced state.

The artificial deliveries followed the use of the wet gauze or iodoform cervical and vaginal pack, puncture of the membranes, manual dilatation of the cervix, hydrostatic bags, version (Braxton Hicks), version and extraction, forceps, vaginal and abdominal caesarian section.

PACKING.

Packing was resorted to in most instances as a preliminary method of treatment and was used chiefly in the central type. A tight vaginal pack will stimulate uterine contractions and will very effectively control hemorrhage of marginal and cervical types. The advantages of the iodoform over the wet gauze pack, I believe, are debatable, and the role played by packing in promoting infection is dependent on the manner, the frequency and the duration of the tamponning.

The high maternal and fetal mortality charged to this method should be properly placed to the credit of the terminal method of delivery.

PUNCTURE OF MEMBRANES.

Rupture of the membranes during a uterine contraction favors descent of the presenting part which serves as a wedge and controls hemorrhage. It is of greatest value in the marginal type and here again the mortality is attributable, either to its use in cases of pronounced hemorrhage or to the terminal method of delivery as was the case in this series.

MANUAL DILATATION.

According to the Harris method manual dilatation was frequently employed; chiefly in the central types. From the record one notes that the dilatations were done rapidly with resultant cervical tears, with hemorrhage increasing as the dilatation progressed, and finally when completed, the

patients were described as being in a state of profound shock and collapse.

Dilatation was done in practically all instances as a preliminary to version and extraction and it appears that a large portion of the mortality charged to the latter operations, should be really credited to the manual dilatation and the resulting hemorrhage.

This method may be permissible in the marginal and cervical types, but the high mortality of both patients in the series, as in others justly condemns its use in central placenta praevia.

HYDROSTATIC BAGS.

This mode of treatment is being greatly advocated at this time, yet a review of the recent literature reveals a wide divergence of opinions. The low maternal mortality generally reported is gratifying, but the fetal mortality is uniformly very high, and its action in stimulating uterine contraction and controlling the hemorrhage in the marginal and cervical types has been to a large extent successful. It is agreed that a large bag should be used and an intra-ovular insertion is more effective in controlling hemorrhage than an extra-ovular insertion. In this series, bags were resorted to promptly in marginal type cases, the insertion being intra-ovular and the results obtained were the same as stated in the opening paragraph. The bags failed in two cases and other measures of delivery were resorted to.

FORCEPS.

Forceps were used in partial placenta praevia, its application being almost equally divided between the two types. There were two high, two medium and three low applications, the maternal deaths being due to repeated, severe hemorrhages before admission. The fetal deaths, other than prematurity were ascribed to the same cause.

VERSION (BRAXTON HICKS).

There is but one case recorded as having been treated by this method, a marginal type case preceded by the use of bags with fetal deaths. This method in conjunction with the hydrostatic bag is favored at this time by many leading obstetricians but it is also being vigorously opposed by as eminent authorities.

It has proven of value in the control of hemorrhage and has resulted in a low maternal, but high fetal mortality.

VERSION AND EXTRACTION.

This combined method of delivery was more frequently employed than any other method; preceded by the insertion of a hydrostatic bag or manual dilatation of the cervix, with a high fetal and maternal mortality.

The marginal type cases were handled primarily with the hydrostatic bag; the central and most of the cervical types, by manual dilatation of the cervix.

The maternal mortality was lower following the use of the bags, the fetal mortality much higher. With manual dilatation, the maternal rate was higher, the fetal mortality lessened.

Rupture of the uterus in the lower uterine segment occurred more frequently following manual dilatation.

Hemorrhage was immediately controlled in most instances, after version and traction on one or both of the extremities.

The majority of maternal deaths following manual dilatation and the combined method, resulted from the continuous and profuse hemorrhage accompanying the dilatation; rupture of the uterus was secondary and the lesser factor.

While refraining from extraction controlled hemorrhage, in most cases the preceding version was complicated by rupture of the uterus which increased the mortality in spite of the conservatism.

VAGINAL HYSTEROTOMY.

Vaginal section was done in two cases of partial placenta praevia. A uni-lateral incision was made followed by version and extraction. I considered the indication in one case, a rigid os, difficult of dilatation, in the other, cicatricial stenosis following a high cervical amputation.

This method in my opinion will eventually become more generally employed in properly selected cases of partial placenta praevia, particularly if the fetus is viable. The operation was elective in both cases, both mothers recovered and there was one fetal death.

ABDOMINAL SECTION.

In this group I have placed all but two cases under the heading of elective section. These two cases were subjected to frequent examinations and were packed repeatedly; and for this reason are excluded. The remainder were subjected in practically all instances to but one examination. Cases were operated upon under general anesthesia, the transperitoneal and high fundal incision being used. The indication in most cases was central and cervical placenta praevia. The total maternal deaths numbered five (5) cases, one had been repeatedly examined and packed, and the other died of peritonitis, complicated by a severe acute nephritis.

Our maternal death rate is excessive as compared to reports from other sources and I am inclined to look to other reasons for their mortality, aside from the indication and the operation.

Our low fetal mortality compares very favorably with the results obtained and reported from other hospitals.

Of the three (3) fetal deaths, one is credited to torsion of the cord in utero.

ADVANCED CASES.

Eight were admitted in extremis with histories of repeated hemorrhages of long duration.

The most severe types of placenta praevia predominated, varied treatment was applied, the mortality in all cases resulting from the previous hemorrhages.

INFECTION.

There are no infections recorded in the cases treated by simple rupture of the membranes. With the pack, manual dilatation and the hydrostatic bags, it is difficult to determine the rate of infection, as these measures were used as a part of a combined method of delivery; used per se the infective rate was very low.

Following forceps applications and vaginal section, there was one infected (slight) case respectively.

After version and extraction the infective mortality appears surprising low. One must keep in mind though, the influence of the maternal mortality in reducing the percentage in the number of cases.

Infections were slightly in excess following manual dilatation as compared to the hydrostatic bag.

It will be noted that twelve of the sixteen cases treated by abdominal section are listed as having been infected varying in degree from slight to severe.

Of the severely infected cases, all terminated in general peritonitis four to five days after operation; of the remaining infected cases all made complete recoveries.

While one would expect the infective rate following abdominal section in placenta praevia to be slightly greater than elective section following other indications, nevertheless our mortality is excessive and not truly representative. As many of the records lack progress—notes and other data, one is forced to accept infection as the only complication post-operatively.

CONCLUSION.

In conclusion, it appears that the prognosis is favorably influenced by early diagnosis and prompt treatment.

Delay or failure in diagnosis, delay in instituting treatment plus an experienced or careless manipulation affect the prognosis unfavorably.

All cases should be hospitalized, given general supportive treatment for hemorrhage and shock, a tight cervical or vaginal pack if hemorrhage is repeated or severe, or if transportation at a distance is required, and finally preparations made for transfusion.

(1) Immediate abdominal section using the high fundal incision in cases of central and cervical placenta praevia providing the patient is afebrile, has not been subjected to malicious examinations or manipulations and the fetus is viable and at term.

If the fetal death is recent, a matter of a few hours and the case meets the other aforementioned requirements I would consider abdominal section.

(2) Most cases of marginal placenta praevia are satisfactorily handled by rupture of the membranes, packing, or hydrostatic bags.

(3) If hospital facilities are lacking or in cases of grave emergency, the pack, the bag, the Braxton Hicks version or version without extraction.

(4) Finally, Caesarian section is the ideal method of treatment because blood loss is avoided, trauma is minimized and the danger of infection diminished, with a resultant lessened maternal and fetal mortality.

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DISCUSSION.

Dr. Gelpi (New Orleans): In analyzing statistics from an institution such as the Charity Hospital, one must be careful in deductions on account of conditions prevailing there. You have a large number of services in charge of a large number of individuals and consequently the personal equation does not come into it to a very considerable extent in gauging results. This is a point that I think should be noted in connection with this study of Dr. LeDoux's.

The indications for abdominal cesarean sections are gradually becoming narrower and narrower to such an extent that at any staff meeting, as soon as cesarean section is mentioned, you can see the ears prick up, so to speak, looking for the indications. In the case of complete placenta praevia, opinion is by no means unanimous as to the indications for abdominal cesarean section. My personal experience is certainly in favor of abdominal section but the thing isn't at all settled and at any rate there are a sufficient number of well posted men with a large experience advocating abdominal cesarean section for placenta praevia to make this stand certainly above reproach.

However, the point that I brought out originally in connection with these statistics and the point that there is no unanimity of opinion as regards the indications for abdominal cesarean for complete placenta praevia, the fact that this thing is still undecided, means that we can't be too dogmatic about it. As I have said there are a sufficient number of men well posted advocating it to make it certainly beyond reproach. Of course, in the cases of marginal placenta praevia I think abdominal cesarean section might be very seriously criticized.

Dr. LeDoux (in closing): I wish to thank Dr. Gelpi for opening the discussion. I would consider doing cesarean section in the presence of a dead fetus if the terminated gestation has been recent, namely, *a matter of a few hours*, for the reason that you are performing it for the placenta praevia and the presence of a living or dead fetus is irrelevant. Remember from the standpoint of hemorrhage you will have to deal with that placenta in the lower uterine segment for several hours.

Ross McPherson advocates, in the case of a living fetus, abdominal section on primipara and multi-

para, as serving the best interest of mother and child. He advises less drastic measures in cases in which the fetus is dead.

J. A. Willett reported the result of treatment of 254 patients at the Royal Maternity Hospital as follows:

179 cases after version or bag:

Maternal mortality just under 13 %

Fetal mortality just under 81 %

14 cases—Caesarean section:

Maternal mortality—1 case..... 7.1 %

Fetal mortality—1 case..... 7.1 %

At the same meeting Dr. Munro Kerr presented the following figures:

Queen Charlotte Maternity, 1921-22—63 cases.

Versin or bag—23 cases:

Maternal mortality 13 %

Fetal mortality 60 %

Caesarean section—17 cases:

Maternal mortality 0 %

Fetal mortality 41 %

City of London Maternity Hospital, 1920-24—52 cases:

Version or bag—34 cases:

Maternal mortality 11.7 %

Fetal mortality 62 %

Caesarean section—5 cases:

Maternal mortality 0 %

Fetal mortality 0 %

Much more could be added from European sources, in support of section in central placenta praevia, and while the majority of opinion in this country at the present writing favors the bag and version, I feel that these figures are compelling and worthy of serious consideration. It is possible to err on the side of conservation, and abdominal section has been too frequently performed for far less grave an indication than central placenta praevia.

HEADACHE.*

C. C. BUCHANAN, M. D.,

HATTIESBURG, MISS.

Headache is always a symptom and never a diagnosis. It is perhaps the most common symptom in the practice of medicine today.

In such a symposium as this, it is

obviously impossible to analyze critically the whole range of headaches. It is my intent rather to discuss more generally the significance of this very common symptom as found in eye and nasal conditions.

It has long been the custom in such a discussion to make arbitrary classifications. Headaches may be divided, for example, into frontal, temporal and occipital headaches, and probably other classifications. They may be continuous, periodic and irregular. They may be mild, moderately severe, and very severe.

The history of the headache as related by the patient, is interesting oftentimes, and should be patiently listened to.

The subject of headaches is, and should be especially interesting to the eye specialist, for next to defects of vision it is the most common symptom with which he has to deal. Fifty per cent of eye patients have headaches as one of their symptoms, and this is usually the most important one.

From the ophthalmologist's point of view headaches may be divided into two groups:

1st. Those in which an ocular condition is the cause of the headache. Such are eye strain, glaucoma, iritis, and other inflammatory conditions.

2nd. Those in which the cause is not ocular, but something about the eye betrays the true cause. Thus papilledema, optic neuritis, retinitis, hemorrhage, arterio sclerosis of retinal vessels, diplopia, defects of field vision, etc., often throw light on some underlying condition of which headache is a symptom.

By far the most important cause of habitual headache is eye strain. What do we mean by eye strain, and how does it cause headache? I well remember several years ago during my early years of practice, I accompanied one of my patients to an eye specialist. After examination he directed me to inform my patient that she had eye strain, and it would be necessary

*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

for her to have glasses for constant wear. I asked the doctor just what was being strained, and he replied the eye, the entire eye. I accepted his brief explanation temporarily, but I was not content until I learned what was being strained. The term eye strain, is a very useful one, and is used daily, not only as a matter of fact, but is a good "*get by*" word.

By eye strain, we mean the adjusting mechanism of the eye is being overtaxed. It is not the retina, or the perceiving or sensory parts of the eye that are strained in eye strain. Fatigue of a nerve of special sense such as the nerve of the retina does not produce pain. It produces diminished or altered vision. It is true this may excite the eye to renewed efforts to improve vision by straining the adjusting mechanism, and so produce strain, but the strain is not of the sensory mechanism.

The adjusting mechanisms that may be strained are two:

1st. The focusing mechanism, which secures a clear image on the retina.

2nd. The fixation mechanism which fixes the eye on the object to be looked at. If the focus of the eye varies by so much as the hundredth of an inch from the plane of the retina, then the image is not good. If the two eyes are not so turned by the external ocular muscles toward the point to be looked at, the fixation point, that the image of that point falls accurately on the macula of each eye simultaneously, there is failure of binocular single vision with distressing results.

There would be no such satisfactory vision as we have if nature had not provided suitable mechanism for doing these two things, that is, securing an exact focus of the image of the retina, and an exact co-ordination of the ocular movements. It is by means of the two mechanisms that one is able on the one hand to correct many of the commonest errors of refraction, and secure in spite of these errors a good image

on the retina, and on the other hand to correct palpable defects of ocular muscle balance and secure binocular single vision.

The mechanism for focusing includes the lens with its elastic support,—the ciliary muscle to regulate the tension of this elastic support and so regulate the curvature of the surface of the lens; the nerve supplying the ciliary muscle, its primary center below the third ventricle, and its adjoining and interconnected groups of motor nerve cells and their nerves and muscles which are associated in the act of accommodation.

The ordinary use of the eyes for hours does not produce strain when the work is well within the limit of endurance of the mechanism. Under two conditions the limit is reached more early and strain follows:

1st. When the mechanism, one or both, have to contend with a handicap.

2nd. All conditions which reduce the endurance of the neuro-muscular system. I am sure we have all had patients consult us with the following story: "I never had the headache until after I had the flu." Usually this headache has two causative factors, namely: a lowered neuro-muscle system and an error of refraction. So long as the neuro-muscular system is normal, or apparently so, the error of refraction does not manifest itself; however, when the two conditions exist simultaneously, pain must necessarily result.

Can we determine definitely whether a headache is ocular?

Ocular headaches are usually frontal, but not necessarily so. It has been said that pain from the focusing mechanism is frontal and when due to fixation strain it is occipital or cervical.

We can determine rather definitely whether or not the headache has its origin in the eye by instituting the following treatment:

- 1st. Stop, or reduce work.
- 2nd. Build up endurance.
- 3rd. Correct errors of refraction by glasses.

Next in importance to the headaches of ocular origin, are headaches having as their causative factor, nasal diseases and deformities and nasal accessory sinus inflections, acute and chronic. For convenience of study these conditions may be grouped under four headings:

- 1st. Acute nasal, or nasal accessory sinus infection.
- 2nd. Chronic nasal, or nasal accessory sinus infections.
- 3rd. Anatomic variations which cause pressure contact. Namely: Deviations of the septum. Septal spurs and enlarged turbinates.
- 4th. New growths of nose and accessory sinuses.

The pain in these conditions may be explained on the basis of pressure of swollen tissue upon sensory nerves or their terminations. When a sinus is filled with secretion and inflammatory exudate under pressure, the drainage being blocked, the cause of pain is easy to explain, but the occurrence of pain in many cases does not appear to be dependent upon the presence of pus under pressure and is attributed to the involvement of the nerves or their terminations in the inflammatory processes within the walls of the sinus cavities.

The pain of an acute sinusitis is often very severe, and is aggravated by bodily exertion, and especially the stooping posture. In a typical case the pain begins each day as a dull ache at or shortly after rising, and gradually increases in severity until it reaches its maximum intensity about noon, after which it gradually subsides and the patient is more comfortable during the evening hours. The pain is usually more severe each day until the peak has been

reached, after which there is a gradual subsidence until finally the pain ceases altogether. All cases do not run this beautiful course, but have constant pain; however, these patients usually suffer more during the day than night.

There are no symptoms by which we can determine definitely which sinus is causing the pain; however, when we do find pain referred to certain localized areas it is suggestive. The pain in acute frontal sinusitis is located in and about the eye and frontal regions. There is tenderness of pressure of the floor of the sinus, above and behind the inner canthus.

In acute maxillary sinusitis the pain is referred to the upper jaw teeth, cheek, and often to the eye and frontal region as well.

In post ethmoid and sphenoid, the pain may be referred to any of the areas of distribution of the nasal ganglion; however, I believe it is most intense back of the eye, and may extend also to the occiput.

The diagnosis of acute sinusitis, is usually not a difficult task. The chronic forms, however, are not so characteristic, and often present no definite symptoms whereby a diagnosis can be made. It is often necessary to apply all the methods of examination at our command, namely: careful rhinoscopic examination after shrinkage with cocaine and adrenlin, endoscopy, trans-illumination, X-ray investigation, and lastly, the effect of cocainization of the sphenoid recess and sphenoid sinus. It must be remembered that pain due to a lesion within the sphenoid sinus is not affected by cocainization of the ganglion, but may be relieved by anesthetization of the sphenoid cavity itself. If this so called therapeutic test is positive, surgical interference may be attempted with some assurance of success.

Another group of cases in which the nasal origin of headaches is present, is comprised of those in which may be found evidence of anatomic variations in the nose,

which result in pressure contact between the inner and outer walls. Such contacts are due to deviations and thickening of the nasal septum. Enlarged and cystic turbinates and polypoid growths are often found. These cause a blocking of the natural drainage of the sinuses and we may find as a result an infection of the sinuses or the results of blocking may be a vacuum, which causes variable pain and often intense pain.

After careful study of headaches from an ocular and nasal point of view, I would like to present for your consideration the following conclusions:

1st. Since headaches are more often due to the eyes than anything else, the eyes should have a careful study in every case of repeated headache.

2nd. Eye strain is very common in eyes with extra good vision. Therefore, the presence of good vision is no ground for thinking that a given cause of headache is not ocular in origin.

3rd. The severity of the headache does not depend on the magnitude of the refractive error. Even very low errors sometimes cause considerable pain and discomfort. Where any error is found, nothing short of the harmless therapeutic test, namely: the wearing of glasses is conclusive. Often times this is only one cause which acts jointly with other causes. Its correction may be sufficient to effect a cure.

4th. No search for the cause of headache is complete until a thorough intranasal examination has been made.

DISCUSSION.

Dr. R. C. Lynch: There is one point I would like to bring out in headaches caused from sphenoidal infection. Dr. Earl Brown of New Orleans has brought out the point that he finds a concentric contraction of the field of vision in practically all of these cases. Opening of the sphenoid seems to clear up not only the contracted field of vision but the headaches as well.

Dr. P. W. Rowland (University): I hope I may be pardoned for rising. I make no pretense to

specialism in either eye, ear, nose or throat, but as an internist (who by the way, is the highest type of specialist) I might impose myself on your good nature for a few minutes. And, in addition, since Doctor Guyton, who is a fellow townsman and colleague, and who was to discuss another paper, is not present, I thought I might take five minutes of your time in discussing this paper:

I rise, too, because headaches, to me, is a very important matter, since I have been a victim for a number of years; and for the additional reason that, what might have been a serene, amiable and lovable disposition, has, I fear, been spoiled by this abomination. Headache is a hydra-headed monster, and makes its attack from many angles, and while I know that very many of them are cured by you gentlemen, through correcting errors of refraction, and by attention to sinus infection, I want to know what you do with migraine patients. I take it that most of you gentlemen have, at some time in your professional life, been practitioners, and that you have had occasion to handle many of these obscure headaches. Now, although a victim, I am not making an appeal for sympathy, because I have long since come to the conclusion that in these sufferers, if they are to get along at all, with at least a moderate degree of comfort and success, the cure must be worked out by themselves. Nobody knows anything about this particular type of headache, "migraine." I don't know anything about it myself, except symptomatically, but I have theorized. I have attempted to find an explanation for it in a disturbance of the sympathetic system, the basis of it being infection somewhere. I feel sure that the vast majority of migraines arise from biliary infection. The symptoms are not manifested in the ordinary reactions to gall-bladder infection, such as backache, pain under the right scapula, jaundice, fever and etc.—just simply a headache. Doctor Shea struck the key note in his splendid explanation of some types of vertigo, when he said the infectious agent has a special affinity, for the eighth nerve. It also has a special affinity, at times, for the pain perception centers in the brain. This infectious agent manifests itself in cycles. The headache is an explosion, a liberation of toxins in the blood stream, after a period of quiescence, somewhat after the manner of the plasmodium of malaria.

There is another condition you will find worthy of note. There is a disturbance of the heat mechanism in the brain, manifesting itself, particularly, in a disturbance of the heat dissipating centers. You will find the axillary temperature generally below normal, say one or two degrees, while the rectal temperature remains normal. I don't know what relation this has to the conduction of pain stimuli to the brain, but I call your

attention to this fact. There is a contraction of the superficial blood vessels, without a corresponding contraction of the vessels of the splanchnic area, and the resulting headache is a simple hyperemia. Relief is brought about principally through restoration of the surface heat, and elimination through the intestinal tract by means of quickly acting purgatives. As to the treatment of these migraines I want to say this. The fewer drugs the better. The relief of periodic attacks of pain by the use of depressing drugs is harmful in the long run. Normal resistance is impaired and a vicious circle is built up, in the end bringing the patient to chronic invalidism.

The only treatment worth while, in my judgment, is one of sound advice as to habits of diet, exercise, etc.; a training in building body resistance; educating the patient, so to speak, to look upon his affliction as one to be overcome by training oneself to endure. Immediate relief is necessary at times, but the main effort of the physician should be expended in the physical and spiritual training of his patient. I thank you gentlemen for permitting me to say this much.

Dr. E. H. Jones: Mr. Chairman: I have enjoyed the doctor's paper very much, and I admire anyone who will tackle the big subject of "headaches" in one paper. One thing he didn't mention that I think of the utmost importance is, that all eye, ear, nose and throat men should be good diagnosticians. Medicine is getting to the point of specialization that we have a great many patients come to us and say, "I have a headache and I want to find out what is wrong." It is this particular type of case we frequently see before the general practitioner. And there are many considerations he didn't go into, and I cannot go into, that we must be capable of diagnosing before we know it is in our realm.

After going into the history and seeing the patient is all right physically, he has suggested eye examination, in which I agree with him. He don't use the prisms, and I think he wisely does not. I had the privilege of seeing one well known man work a good deal who used a great many prisms, most of which later had to be taken off.

Now, there is one other statement here, that after the flu he found a great many patients with eye trouble. I believe flu always infects, as well as affects, the sinuses, and I rather question that that was due to eye strain alone. I think that very probably his trouble was in the nasal accessory sinuses. And there is one point I find will guide me a great deal, and that is, the tenderness at Ewing's point, where the trochea is attached. You will have an infection of the frontal sinus causing a tenderness of the bone, and the pulling

of this muscle, especially in looking down to read, on that tender bone will frequently cause a headache that is not noticed until about fifteen minutes after the patient has started to reading.

Also, after the flu you sometimes have a frontal headache, which, Dr. Shea has pointed out, is due to the involvement of the sphenoid. I heard him say he frequently found them occipital. I think he referred to the post-mastoid. This point was ably described by Sluder. As he mentioned there, the cocainization of the nasal ganglion does not relieve pain caused by infection of the sphenoid sinus. There is another symptom that Skillern described, which I have found present. I never noticed it until I read Skillern's paper. A patient may have frontal pain caused by infection of the maxillary sinus. It seemed strange to me at the time, but I remembered it to be true.

The most important part he brought out is getting the history, and in getting into the history the important points, which the patient usually can't tell you the first time; that is, if they have had a long period of headaches. You go to asking them for the definitely localized pain, for the duration, and the intensity, they usually can't answer any of those questions specifically. When you get a good history, it helps you a great deal. I enjoyed the doctor's paper.

Dr. L. S. Gaudet: I enjoyed Dr. Buchanan's paper very much. In his conclusion, he brought out a very definite point: That all cases of perfect vision are not grounds for thinking you don't have any eye strain; and that is well to be remembered. I have had a great deal of work to do in connection with the Red Cross work, and I have had so many children referred to the office that would give you a vision of 20/15. I never took that for anything at all. Reading a chart at a distance of twenty feet and giving you a vision of 20/15 means nothing in those cases. I have always made a habit of using a mydriatic. In many cases you will find that will give you a vision of 20/100 in cases of eye strain. I think that is a very important point. And I think doctors oftentimes are misled by nurses and other people interested in child welfare in your school work, and we ought not to take those things for granted; we ought to go over those cases and do it with a mydriatic in every case.

Dr. D. C. Montgomery: Dr. Buchanan did not describe the headache that the doctor sometimes finds, particularly the one he had just recently and about which he was talking to us, describing a case of tonsil hemorrhage rather severe in character, and which occasioned a rather severe headaches. He told us after working with it for two or three hours he finally told his patient, an

old lady, "Prepare to meet your Maker; I can't do anything for you." In his conclusion, perhaps he will tell us what kind of headache, or cause of headache, she had.

There is a type of headache better explained as neck pain, the back part of the neck and shoulders, so often occurs because of a post-ethmoid infection, without pus, and due to hyperplastic condition. In the past that has puzzled me. I think in most instances it is due to a hyperplastic condition of the post-ethmoid.

Dr. E. L. Posey: I want to add a word to what Dr. Gaudet has said, in the use of mydriatics in eye strain. I don't know how you gentlemen find things in your cities, but here in Jackson we see folks who have been fitted by optometrists, with no relief, and are wearing lenses that are in no sense suited; with folks who have been refracted with no relief it is my rule to use the mydriatic in their eyes. I use mydriatics in these cases, as well as all others, under 40 years, and in the majority of cases am able to give the patients glasses that give relief. So often I find in my work muscular involvement largely responsible for headaches. Dr. Jones says he doesn't use the prisms, but in such cases I find them absolutely necessary and the only thing that will relieve the headache in these cases after the error of refraction has been corrected. I find the use of a mydriatic very helpful; in fact, I use it altogether in patients under forty years of age.

Dr. Stevens: I was impressed by one thing that the doctor said there, and which Dr. Bryan said last night—to find out what is the matter with the patient, and then find out what else is the matter.

I really believe in a great many cases the importance of eye strain as a cause of headache is exaggerated. Take a majority of the people that are healthy, every organ functioning properly, their muscles vigorous, and their nervous system stable, they can have error of refraction and never pay any attention to it. I would not minimize the importance of correcting these errors if you find one; but it is also a good idea to look further.

I had a patient recently who had been complaining of headaches for a year. I found that she had hyperopia and astigmatism, which I thought was enough to account for the headache; but looking into the nose I found a deviated septum in contact with the middle turbinate; sinuses clear; the tonsils were submerged, red and spongy, and there was a history of lumbago. I advised the fitting of glasses first, and if that didn't give relief, operation on the nose; and advised removal of the tonsils anyhow. For some reason or other,

these people were very prejudiced against wearing glasses; they decide they would rather have the operative work done, and try to avoid wearing glasses. I told them I would remove the tonsils, and in two weeks do a nasal operation. I removed the tonsils, and she has never had another headache. So, you can't always tell when you find refractive error, whether that is the cause of the headache or not. As I said, the exaggeration of the importance of eye strain as a cause of headache is noticed in the patient. I have had people come to me suffering with headache sometimes less than twenty-four hours and want their eyes refracted. Patients fifty and sixty years old, who never had headache in their life, insist if they had proper glasses they would be relieved, and you can hardly make them believe they were something more serious.

Dr. C. C. Buchanan (closing): Mr. Chairman and Gentlemen: I certainly appreciate and have enjoyed this most liberal discussion. It would probably be possible to classify very scientifically and minutely the various causes of headaches, if we could find someone who could give the time, attention and study to it. The causes are so numerous that in a short paper we can only take up one limited side of it.

In reply to Dr. Montgomery about that peculiar kind of headache, I would like to say that that is an indescribable headache; I do not believe any man possesses a vocabulary that is sufficient to describe minutely the headache the doctor has when his sixty-five year old lady patient with high blood pressure, is bleeding. In this particular case I was describing to him, I didn't tell her, but I rather intimated to the Lord that it was up to him and that old lady to pull her out.

In reply to Dr. Rowland, he asked the definite question: What do you do with these cases of migraine? I will tell you what I do, and I believe you do about the same thing—I send them to a doctor somewhere if the cause is not found in my line; if I do not find sufficient evidence in the eye, ear, nose or throat, it is a mighty good class of cases to get off of your hands, I have found, and I direct these patients to go from whence they came.

Dr. Posey brought out a very important point there; I was glad to hear him mention it. I didn't mention it because I was afraid I would get in trouble about it. That was the question of the prisms. We have a mighty well organized crowd to fight, namely, the optometrists. I do not offend the optometrist. A patient comes to me who has been to the optometrist, I say the optometrist did the best he could, but it is necessary to treat these eyes with drugs, and often-

times you do use atropin and they get better. I don't fight the optometrists.

This is a big subject, and I would like to hear it discussed again by some doctor who is more capable than I am, and hear some more important points brought out, because it is the biggest subject we have in Mississippi today. I certainly appreciate the discussion that has been brought out here.

SOME PSYCHOLOGICAL ASPECTS OF THE SENILE PSYCHOSES.

GEORGE P. BOULDEN, M. D.,
*Assistant Physician, East Louisiana State
 Hospital,*
 JACKSON, LA.

With the advent of middle age the peak of mental capacity has usually been reached. From this time changes take place which mark the beginning of the descent into the valley of the shadow of death. Frequently the peak is reached somewhat later and the descent is slow, the mental faculties being well preserved long after the age which has been set as the beginning of the senium, namely sixty years. On the other hand premature senility occurs occasionally before the age of sixty has been reached. In middle life we may look for arterio-sclerotic disease to begin; and near this time the menopause and its equivalent in the male may prepare the stage for the setting which we know as involutional melancholia. Early evidence of senility already alluded to may be accompanied by Alzheimer's disease; and, finally, at or after sixty, the acknowledged senile psychoses may appear, eventuating in profound dementia.

All of these conditions, then, may be considered as depending amongst other things, on the beginning or advance of old age. While potentially demonstrable changes in the brain, in the endocrine glands, and in metabolic processes may be the conjectural, or certain basis for the development of psychoses at the different periods named, something else must co-

operate to bring about the different forms of mental aberration. One of these doubtless, is what has gone before: what he has been by inheritance, by environment, and by habits of thought. It is this which constitutes the psychological aspect of the senile psychoses. If we knew that psychotic manifestations were entirely dependent on the tissue changes incident to advancing age, there would be no psychological problem involved; all seniles would present similar mental symptomatology according to the physical changes which had taken place. As a matter of fact we see diverse manifestations and these have been approximately grouped for descriptive purposes in various sub-types.

It may be reasonably supposed as age advances that there is a different outlook for the psyche. The certainty of the final tragedy leads to introspection and review of the life that has gone before. Interest in the immediate present is lessened, hence attention disorders occur, and thus memory for recent things seems to be impaired, as no impression of passing events is being made upon the mind. Many relatives and dear friends have passed away, familiar neighborhoods have outgrown their former characteristics, and the memories of these are cherished, and new acquaintances and localities cannot take their place. Remembrances of the days of yore, when these were intimate associations, lead to the *appearance* of a better memory for past events than for the nearer in point of time. The lack of interest in the present environment, whereby impressions on the sensorium are feeble, accounts for impairment of retention (forgetfulness). And so arise likewise, self-centering of interests and absence of an attempt to concentrate on present day problems and sometimes accompanying depressions. All of these are fairly common out-croppings of the senile period. When unduly prominent these may attain the dignity of an actual psychosis, placing the individual, as happens frequently, out of contact with reality.

Irritability, stubborn opposition, boastfulness (as expressed in reminiscence of erstwhile performances) and the tendency to fill in the gaps of a failing memory by fabrications, are distinctly psychotic symptoms, as is the appearance of paranoid trends. There are many individuals who in early life had the precox or shut-in make up, suspicions of the intentions of others, leading them to feel that they were being persecuted, but who escaped that form of psychosis (dementia praecox) until the senile changes had biased the critique and put the inhibitory censors of the mind out of commission. These develop definite paranoid trends along with other evidences that the mental processes have become senile. Their habits of thought, never before reaching full expression, now dominate the psyche. Introspection and ego-centric interests in extreme cases get some so far away from reality that they are disoriented for time, place, and person: and their memory, even for remote events, the things which interest the subject most, is not measured by the lapse of years but by its prominence in the content of thought, and being thus seemingly near, leads to most ridiculous mistakes in time relations. A person of seventy speaks of parents and even of grand parents as if still vigorous in life. Restlessness, especially at night, is often in evidence, which along with retention and memory defects, may make the individual dangerous to himself or others, in such ways as falling down the stairs in the dark, turning on unlighted gas, etc. Lack of ability to exercise physically and to digest normally, may account for this condition partly, and to such an extent it may be said to be a reaction to somatic conditions; but disagreeable thoughts which come in the silence of the night, play no unimportant part in making them get up and wander about and get into mischief.

The pre-senile type described by Alzheimer and known as Alzheimer's disease, is characterized by early ageing of the individual, physically and mentally,

with special prominence of failure on the physical side, and is not so rich in psychological features. It may commence in the forties or even in the thirties, and terminates in early dementia, and death.

These psychotic manifestations, except Alzheimer's disease, are very gradual in development. In any of them, especially the paranoid and confused types, misinterpretations and lack of judgment may pave the way for auditory hallucinations, or more rarely, the seeing of visions.

In simple deterioration there is a gradual failure of memory and interests, and separation from present day affairs *pari passu* with physical enfeeblement and deteriorating changes in the brain, capable of detection under the microscope.

For convenience of classification the following types are recognized, but it must be remembered that symptoms often overlap:

(a) Simple deterioration: gradual failing of the powers of life including the mind, usually with suspicions, irritability and restlessness, especially at night.

(b) Presbyophrenic: where in addition, an attempt is made to cover up confusion and memory defects by fabrication.

(c) Delirious and confused type: which, having in mind what has been said about the other types, describes itself.

(d) Depressed and agitated: probably the outcropping of a cyclothymic make-up, which escaped being a mixed manic in earlier life by non-severity of symptoms.

(e) Paranoid type: already accounted for.

(f) The pre-senile type of Alzheimer.

Other psychotic manifestations than those mentioned may appear, depending on the make-up or inheritance of the individual, or on other causes. Most of them represent an unconscious attempt to escape

from reality and substitute methods of thought more agreeable to the individual,—often having the objective appearance of extreme selfishness.

That the chief etiological factors in these cases have not been mentioned is not because of their unimportance but because the anatomical changes are not of special psychological interest. Briefly, senile plaques in or near the cortex, known as Fisher's plaques, small and large wedge shaped softenings, some arterio-sclerosis; widening of the sulci and atrophy of the convolutions of the brain, with dilatation of the ventricles are prominent features often observed and are obviously responsible for much of the reduction in mental capacity which sooner or later ensues. *Prognosis* is necessarily unfavorable, and treatment is symptomatic and expectant. Intercurrent disease ends the scene in many of the cases.

TRACHOMA.*

H. L. ARNOLD, M. D.,

MERIDIAN, MISS.

While trachoma is by no means one of our most common eye diseases, yet on account of the serious and permanent results caused by it, it is one of our most important eye diseases.

ETIOLOGY.

The etiology of trachoma is still so uncertain that there is no need to consider it in such a limited paper, but it is generally judged to be communicable by the transfer of morbid material from eye to eye. We usually associate trachoma with the poorer classes and think of it as a disease of filth and dirt, nevertheless cases are found among all classes. Crowded living and poor hygienic surroundings are important factors and lately some have advanced the idea that it is a nutritional disease rather than an infection.

PATHOLOGY.

Briefly, the pathology may be described as a subepithelial proliferation of lymphoid tissue followed by cicatricial changes in the conjunctiva.

Clinically trachoma has been divided into many forms, and while no hard and fast lines can be drawn, most cases can be classed under one of the following: (1) Acute trachoma with swollen lids, profuse purulent discharge and trachoma granulations. In fact, aside from the granulations, the appearance is much the same as any acute purulent conjunctivitis. (2) Chronic inflammatory trachoma with more or less variable inflammatory symptoms, often with intermissions and exacerbations, always leading to cicatricial changes. (3) Chronic non-inflammatory trachoma with more or less granulations, usually confined to the palpable and retro-tarsal conjunctiva of the upper lid.

The more common complications and sequelae are pannus, ulcer of the cornea, trichiasis, entropion, ectropion and corneal opacities.

DIAGNOSIS.

In a typical case the diagnosis does not present much difficulty, but there are border line cases which are often puzzling. Probably follicular conjunctivitis is most confusing, but is usually differentiated by the small pale granules confined to the fornices, and the lack of cicatricial changes.

TREATMENT.

Probably in no disease has such a variety of remedies been used, a sure indication that no perfect remedy has been found. The principle of the medical treatment has been to use astringents of such strength as to cause absorption of the granulations without the remedy itself causing cicatricial changes. The more common ones used are silver nitrate, 1 to 2%; bichlorid of mercury, 1-500 to 1-10,000; copper sulphate; cyanid of mercury, 1-2000; and more recently subconjunctival injections of 1%

*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

copper sulphate with 4% procain. The main objection to the medical treatment is that it is a prolonged and painful procedure, making it difficult and often impossible to keep the patient under control long enough to clear up the disease. In the last few years the tendency seems to be more to treat trachoma surgically with medical treatment as an adjunct. The opinion seems to be well divided with either expression or grattage as the choice operation in the ordinary case.

DISCUSSION.

Dr. Stevens: Mr. Chairman: In my personal experience, about the most noticeable thing in trachoma is—it usually turns out to be something else. It may be that in my locality it is different, but I find it to be a very rare disease. I have probably seen three or four times as many cases of vernal conjunctivitis as of trachoma. In the cases I have seen, I have been impressed with the fact that they are very hard to cure, and almost certain to have complications at some stage. Most of the supposed cases, as I said, that I have kept under observation for a considerable length of time, have proven to have another diagnosis.

There is one little thing in the treatment—of course, it may have been purely a coincidence and I would like to hear from somebody else who has heard about it, or had experience along that line. I had a genuine case of trachoma a few years ago in a fellow who contracted syphilis during the time I had him under treatment. I treated him for about two years, and finally he appeared to be cured. A few times he missed treatment two or three weeks, and every time the trachoma would be worse. But two or three times during that period he took a vacation and went to Hot Springs and took extensive mercurial rubs while there, and when he returned his trachoma was better than when he left, without any local treatment whatever. I don't know whether that was purely a coincidence or not.

Dr. E. L. Wilkins: I am very much like Dr. Stevens; I haven't seen much trachoma since I have been in the Mississippi Delta. I did see quite a bit of it in Tennessee before the war. A few weeks ago I found that the government was holding a trachoma clinic at Kenneth, Missouri, for three days, and went up one day to attend this trachoma clinic. They have a man putting in all his time, and quite a good deal of equipment, and they are studying trachoma; have two hospitals in that section, one at Fayetteville, Arkansas, and the other one at—I forget the name of the town

in Missouri. I saw some wonderful work there that day, and it was very, very interesting. He raised the question with me, knowing I was from the Delta, as to how many cases I ever saw, or if I ever saw a case in the negro—the doctor mentioned that it was in all classes, and I have never, that I can remember, and have no record of seeing a case in a negro. The lower class, as he said, are the ones where it is usually found, where their nutrition and hygienic and sanitary surroundings are not so good; yet, the surroundings of our negroes would tend to show that that is not the only prerequisite for trachoma.

Their method of treating, he used scarifying method—turning the lids and cleaning them with gauze on his finger, flushed them with bichlorid solution 1-2000. His after treatment was 15 per cent argyrol for about one week following this; then he used the zinc sulphate sol., one grain of sulphate of zinc and fifteen grains of boric acid. After he had gotten a great deal of scar-tissue, he didn't remove the tarsus; he took out a crescentic section of the upper lid with a slit through the tarsus, and when he made this slit through the tarsus, he made his suture from the upper margin of this slit and catching the outer edge of the tarsus turned out the lid from there, without any reference to the lower edge of slit in tarsus. He broke them in this way and pulled it out. He was doing a great deal of work up there. We saw quite a number of operative cases and treatment cases. He was very careful in the diagnosis of his cases, showing that he found it a very very hard job in diagnosing an incipient trachoma. His general rule was that if he was in doubt he would put them on the zinc sulphate solution and tell them to come back. He had been studying nothing but trachoma in the Public Health Service for twelve years.

Dr. James B. Stanford: It has been my experience with the diagnosis of trachoma that it is not particularly difficult, except in cases of acute trachoma. In acute trachoma the diagnosis is practically by elimination; you can't determine anything else but trachoma. The public health men—I question a lot of their reputed cures of trachoma, or rather, I question the diagnosis in these cases of rapid cures.

Trachoma is a mysterious sort of disease. I have a case of it at present and there is not another case of trachoma in the man's town, and so far as he knows, there is not another case in the county, and he has never seen another case of trachoma, except when he has gone to some city for treatment. Certainly it is more prevalent in some sections than in others. Doubtless, less than one per cent of my practice comes from southeast

Missouri, yet about fifty per cent of my trachoma comes from there, and why it should be so particularly prevalent there, I don't know. The medical treatment of trachoma is necessary. Of course, the treatment of trachoma varies largely with the condition of the particular case—in what stage the disease is manifested. The surgical procedure adopted depends largely on the amount of scar tissue, etc. But none of those cases will get well without a rather extended period of medical treatment after the operation, regardless of what the operation is. I have never heard of any association of syphilis with trachoma. This must have been a co-incidence in Dr. Stevens's case.

Dr. H. L. Arnold (closing): Mr. Chairman: In regard to the case that Dr. Stevens mentioned that the recovery improved under the syphilitic treatment, I don't see much trachoma; I see very few cases; but I did have a case some time ago which was an old case with some corneal opacities. It fell into the hands of someone who made a diagnosis of interstitial keratitis, and they gave a very vigorous treatment. I don't know how much mercury they gave, but they had given eighteen injections of salvarsan, and the patient said he didn't see any change in the eyes, so that I doubt if there is any connection between the two; certainly there wasn't in this case. Doctor Wilkins mentioned about the negroes. I have never seen a case of trachoma in a negro, but Dr. DeSchweinitz says he sees quite a few in Philadelphia. They have quite a large negro population in Philadelphia, and I know in the hospitals there they see quite a great many negroes. Now, whether it is due to the dwelling conditions there, because the negroes are rather crowded there, and they live under pretty poor conditions or not, I do not know—but I have never seen a case in a negro.

THE ROENTGENOLOGIST AND THE HOSPITAL.*

JAMES T. CASE, M. D.,
Battle Creek Sanitarium,
 BATTLE CREEK, MICHIGAN.

It is with mixed pleasure and hesitation that I have accepted the invitation to come to New Orleans to give the address of dedication of the newly finished and enlarged roentgen department of the Touro Infirmary: a pleasure at the thought that I was

considered worthy of the dignity implied, and hesitation at realizing how far short I would probably fall from the expectations of the committee. My long and intense interest in the development of roentgenology, extending over most of my professional life, urges me always to wish to participate in every gesture which tends to elevate roentgenology to the high plane now assured it among the other specialties in medicine.

Tonight we are assisting, as it were, at the formal inauguration of a partnership, in which all of us have more or less interest. You, who are here as a part of the staff of this institution which will profit directly, can do most to assure a suitable foundation for this union of effort; we, on the outside looking in can only wish you well, and this we do most heartily.

This occasion offers an irresistible opportunity for retrospect, a brief review of some of our present opportunities and obligations, and some sort of effort to lift the curtain of the future of the branch of medical science which has already been recognized as the chief of the mechanical aids to medical diagnosis.

Roentgenology began in the physics laboratory, was taken up by photographers, gradually falling then into the hands of medical men with more or less genius for things mechanical, and has now reached a plane where no one can achieve recognition as a roentgenologist who has not had a complete medical education in a recognized medical school. It is very interesting that the man who made the discovery of the X-ray possible, Sir William Crookes, had no university education, nor did he hold a professorship. He was not a linguist. He did valiant service in the fights against cattle plague and cholera when these pests were raging in England. His biographer says that he studied disinfectants and water supply and sewage disposal, leaving a mark on his generation in the shape of a substantial reduction of the death-rate;

*Given at the opening of the new X-ray Department of the Touro Infirmary, New Orleans, Louisiana, April 27, 1926.

that he threw his whole weight into the development of the photographic art, devised new processes, invented new apparatus, and applied the art to the investigation and recording of scientific phenomena. Later, continues the biographer, "came that wonderful chapter of researches in high vacua, leading to 'radiant matter,' the radiometer, and the 'Crookes tube,' which incidentally solved the problem of electric lighting, and is now universally represented by the electric lamp" found in almost every home. For the benefits of the branch of medical science which we call "Roentgenology," in honor of the discoverer of the magic rays, we owe to Sir William Crookes much more than is generally realized.

And while speaking of Crookes, I wonder how many of us could fail to admire the high standard he set for himself as a guide in his scientific work. In a letter to one of his closest friends, he penned the words: "Have I not ground and winnowed and sifted evidence to such a degree that along with the bad I have thrown away much of the good because it was not good enough, and only held firm to the small residuum of absolute truth?"

It would be unseemly for me here to undertake a eulogy of Roentgen who was lucky enough to achieve the honor of discovering the rays which for twenty years had been emitted from the Crookes tube. Prof. Rudolph Matas has told this enchanting story to you tonight, as well as in the introduction of one of the volumes of the *Annals of Roentgenology*, contributed by our New Orleans colleague, Dr. Isidore Cohn.

Today the roentgen department stands without doubt as the most valuable of all the laboratory aids to diagnosis. No less an authority than Dr. Richard Cabot has recently declared that he had received more help from the roentgen laboratory than from all the other diagnostic departments combined. Whether or not he is approx-

imately correct, it cannot be gainsaid that the application of the roentgen rays to diagnosis has constituted one of the greatest aids to surgery since the days of Lister, and we have not yet reached the full development of its usefulness in internal medicine.

The history of the roentgen department of the average long-established hospital is more or less the same through the United States. It began in one small room, usually the same room in which the photographic work of the hospital was performed, and the work was usually combined with the photographic work. Even today I can point to several well known hospitals where the photographic work is delegated to the X-ray department, for no other good reason than that the latter is equipped with a photographic dark room. The location of this department was usually in some out of the way corner of the hospital too damp or too dark for any other use. Such a conception of the place of the X-ray department has not yet altogether disappeared from the minds of some hospital governing boards, and even yet there are hospitals with the one or two small rooms devoted to roentgenology crowded to the bursting point with the numerous pieces of apparatus which have accumulated during the years. A hospital of four hundred beds needs at least 2,000 to 3,000 square feet, including treatment rooms, roentgenographic and fluoroscopic rooms, office, film loading and developing rooms, film consulting rooms, filing room, lavatories, waiting room, and a room for mechanical developments. University and teaching hospitals need more space for the provision of the necessary equipment for teaching purposes.

It is quite unnecessary to say that no amount of luxurious equipment will make up for the lack of a competent physician-roentgenologist, or that the roentgenologist cannot render a full measure of usefulness to the staff without adequate facilities and help.

It is manifestly impossible to permit or expect anyone but a physician to undertake the interpretations of the roentgen-ray findings with any hope of transmitting to the clinician all the help which the department is capable of giving. There have been some notable exceptions to this statement, but they have numbered very few indeed; and with the ever widening field of roentgen-ray application, the usefulness of any one but a graduate physician for roentgen-ray interpretation is steadily decreasing.

It is interesting to contemplate the manner of development of roentgenologists. In the very beginnings of the X-ray, the work was undertaken by any individual with a curiosity for science or mechanical genius who could possess an X-ray apparatus, be he layman or physician. Out of the first group of X-ray users, developed the first generation of roentgenologists, and we owe to them a great debt of gratitude for their unselfish devotion to the development of the science for which so many of them paid dearly with pain, suffering, crippling, and even life. Few of this generation remain unmarked if they are still alive.

Those coming on later, like myself, had the great privilege of learning first hand of the details of the work as far as it had been developed by being freely received in the different centers of X-ray work by these pioneers who did not stint themselves in giving forth of the knowledge and experience which they had acquired. I, personally, shall always feel it my bounden duty to do my utmost to impart to those seeking it, all possible of use out of my own experience, as a means of partial payment for the help given me by the pioneers with whom it was my privilege to come in close contact.

In England a further step has been taken, through the sympathetic assistance of the Universities of Cambridge and of Liverpool, for there has been established a definite course leading to a special diploma

of efficiency in medical radiology and electrolgy, without which it is now practically impossible to obtain a worth-while appointment as a roentgenologist in England. In the United States, the education of the roentgenologist has not been developed so satisfactorily. The universities, bound together by agreement, will not give anything less than a degree of master of science in radiology, and rare indeed is the man who will take the time necessary to procure this master's degree. There are few institutions which offer courses leading to such an attainment; there are numerous other teaching centers which offer fellowships in roentgenology, but they are not nearly sufficient to meet the demand. A considerable number of those who seek special instruction in X-ray work content themselves with a two weeks' course of instruction obtainable in some post-graduate organization, and a few weeks spent in looking over the shoulder of the roentgenologist in this, that and the other hospital, after which they purchase equipment and bloom out as roentgenologists. And small blame to them after all, for it is very difficult in the United States to do otherwise. The amount of teaching in roentgenology in the undergraduate medical schools is next to nothing; the courses in the graduate school are very unsatisfactory, lacking in uniformity, and are given to men without essential preliminary grounding in basic principles of physics necessary for adequate grasp of the subject. Really the most easily accessible font of information in technical roentgenology today is the commercial salesman whose greatest interest consists in the distribution of roentgen equipment.

Poor roentgenologists are in most instances the product of circumstances: insufficient time is allowed for training; men start in with practical work without the necessary fundamental basic training; the work of instruction is casual as regards both time and place; and so many physicians with inadequate training in medicine

or surgery are allowed to take up the specialty of roentgenology.

Owing to the lack of proper instruction facilities in this country, a condition which was infinitely farther from solution a decade and a half ago than now, the average roengenologist of note is a self-made man in regard to his X-ray work,—a self-educated man, if you please. In some instances it was doubtless providential for the man that he had the advantage of association with broad-minded colleagues, or of coming up in a large institution, for few incapable men can survive the demands of a large medical center. In other institutions, the hospital failed to expand with the man who sought more fertile fields of endeavor or went into private work.

The technical work of the roentgen department, including the production of the roentgenograms and the setting in operation of the fluoroscope, is but the preparation for the real medical work of the department, its *raison d'être*: namely, the interpretation of the findings. The work of interpretation constitutes real medical roentgenology, and it must be done by a physician. The better the technical work, the richer will be the roentgen-ray findings in information for the medical roentgenologist to interpret. The more thorough his training, the richer his clinical experience, the fuller his devotion to his work, the more will the medical roentgenologist see in the film and screen records of the case. Some do the fluoroscopic examinations in a perfunctory manner, because they obtain from them little help; but the enthusiastic, well trained, experienced clinical roentgenologist will find in the screen study of his patient a veritable mine of information and his ingenuity will constantly show him ways to reach out into yet unexplored fields. The fundamental condition for the reliability of a roentgenological report depends upon the answer to the question, "Who made the interpretation?"

The average physician of today is not yet well fitted to undertake roentgenological interpretation. This may be said even of many men into whose hands the roentgenologic interpretation is at present confided; and this is a fact for the reason set forth in previous paragraphs. If the roentgen rays are to be utilized to the fullest degree, the roentgen-ray interpretation must be done by a physician who has had special training. The gynecologist, for example, in making a bimanual examination of the pelvic organs, visualizes in his mind's eye what he feels with his fingers; mentally he pictures in flesh and blood the mass which may consist of ovary, tube, fibroid, cyst, etc. In a similar way, the roentgenologist-interpreter must visualize in flesh and blood what he sees in shadow—not a crater, a filling defect, a displacement, an enlargement, a contraction, a thickening, a light or a shadow, but the actual lesions. In his mind he must *see* clearly the ulcer, the cancer, the tumor, the stricture, the cavity. This ability comes only from experience by one with a prepared, receptive mind, and is relatively impossible without a basis of experience in pathology or surgery.

Just here it seems opportune to refer to a growing tendency in some hospitals to treat the roentgen department as a sort of photographic *triage* center, a sort of sorting station, where patients are sent to be photographed after which the resulting concrete records of the examination are asked to be sent to this or that ward or this or that office, where the original referring physician or surgeon makes his own readings and seems perfectly willing to assume the full responsibility for the diagnosis. This began long ago in regard to roentgenograms of fractures and dislocations, and often times with foreign bodies, and has come to be considered in many quarters as the perfectly proper thing for the orthopedic department; but we should recognize it as the beginning of a new departure and we should look well ahead to

see whither it leads. Does it mean that the chest films are to be sent to the chest department, the gastro-intestinal films to the gastro-enterological department, the head films to the neurological department, the urinary tract records to the urologist? If so, what other future can be seen for the roentgen department than a photographic laboratory, and what need for an experienced, trained physician-roentgenologist in such a place? My firm belief is that such a move would mean setting back the clock of roentgenological progress many years, for it would mean abandonment of all help obtainable from screen examinations by a physician-roentgenologist with his accumulated experience of many years in examining patients from all departments of a hospital. There is little tendency for the roentgenologist to get into a rut, to see problems from a single angle for he is constantly influenced by the diverging opinions of men in all departments of a hospital and has a better opportunity than most physicians to realize the fault of getting into a rut, and the need of maintaining a broad-minded attitude.

The above remarks should not be interpreted as intimating that an internist or any other specialist has not a perfect right to fit himself in every possible way for the practice of his specialty; and if he wishes to utilize the roentgen rays as one of the methods of examination, there can be no logical objection raised to his use of this procedure, provided he has devoted a very considerable time to study and practice of roentgen diagnosis under expert tutelage.

The roentgen-ray department is not engaged in work of a kind in which the answer to the problem is found by looking up certain formulas or watching for the development of certain reactions; for the reactions when obtained (that is, the film or screen images) still require interpretation. This takes the roentgen-ray work out of the general class of laboratories and puts it among the examining departments, such

as the urologic, ophthalmologic and electrocardiographic. It might be better if the term "roentgen-ray laboratory" were abolished and we spoke of the "roentgen-ray department" or the "roentgen-ray examining department." The primary object of a roentgen ray department is not to make "pictures" but to supply information.

Most of the work leading to the production of this information should be done with the fluoroscopic screen. We see much fluoroscopy done in a careless or inefficient manner without any real appreciation of its value. In many hospitals the protected hand of the examining physician is never placed beneath the screen. The value of visualized palpation by the gloved hand slipped under the fluoroscopic screen cannot be fully appreciated by one who has not done it. The ability to move the stomach or bowel, to watch the excursions of the diaphragm, the beating of the heart, the ever changing shadows when one rotates a patient under the fluoroscopic screen, to observe the behavior of a joint or a fractured limb under fluoroscopic manipulation—all constitute advantages available under screen examination which cannot be overlooked or set aside, and which most often cannot be transferred to a film record.

The roentgenological diagnosis must be arrived at by a process of reasoning and argument, just like the clinical diagnosis. The films do not come out of the dark room with diagnosis labels filled out. By a process of considering all the possibilities and eliminating them until the probable diagnosis remains, the roentgenologist reaches a conclusion. He may not be able to put a name to a condition which he studies, unless he draws upon other than roentgen evidences for his information, and this is something which I believe should never be done. The roentgen report should contain only statements which can be substantiated from roentgen evidence. This report will then take its place with the other evidence of the case, from which the clinician in

charge will then draw his conclusions; *but*—and this is a very important *but*—if the staff has the slightest interest in the development of a capable roentgenologist with ever increasing usefulness, they will leave no stone unturned to keep him posted in regard to his cases, tell him of his successes as well as his failures, send for him when the surgeon or pathologist has let the light of day upon a lesion which has been baffling.

In the light of what has been said, it is apparent that the examination, and the interpretation of the examination findings, will be all the more valuable and helpful if the roentgenologist is furnished with the history and such clinical data as are available up to the moment of the roentgen study. This will enable him to focus his attention upon the probable lesion and will permit him to exercise some of the “tricks” which he may have learned to brush away the fog a little more efficiently than if he is merely asked to examine this or that tract. The roentgenologist, once proven to be a man worth cultivating, should not be treated as though he were perpetually on examination and each patient sent to him as a catch problem, but he should be looked upon as a colleague and be provided with every fact likely to assist him not only in the interpretation of the case in hand, but also in his development into a better, broader, and more useful consultant. The roentgenologist may render valuable help in the early diagnosis of post-operative ileus, in the discovery of subphrenic abscess and in the proper placement of drainage tubes. In post-operative pneumonias and other respiratory complications, the roentgenological film sometimes constitutes decisive information. A sympathetic co-operation between the radiologist and the surgeon or internist in these types of cases will result in deviation from the old approved methods and result in valuable research in new methods and in new applications of old methods.

As Barclay has suggested, the roentgen department is full of intensely interesting work; it may be likened to a profusely illustrated book. The illustrations come automatically from all departments of the hospital and from outside patients. The value of the illustrations can be considerably enhanced if there is a close sympathetic co-operation between the pathologist and the roentgenologist; and it would be an advantage if the two departments were physically closely associated.

It transpires in most hospitals that a very large proportion of the cases find their way to the roentgen department, and if the pathologist and the roentgenologist are working together there is thus afforded a great opportunity for these two workers to see that there is made the most possible out of the wealth of material which accumulates. In this manner, the roentgen department may constitute a bureau of information concerning material available from the unique position occupied by it as a link in so many diagnostic chains. Again quoting Barclay, the roentgenologist has a great opportunity to help link up scattered units of a hospital which tend to get further and further away from each other, each absorbed in itself and not knowing what goes on in other units; and he should be able to break down barriers which have a tendency to spring up in big hospitals by making the X-ray department a common meeting ground for men from all parts of the institution.

Naturally this means that the X-ray department will be staffed with enough help so that the physician in charge will be sufficiently freed from enslaving and time-consuming details of technical work, which a really efficient department will have done by assistants, to have the time to devote to the really medical side of his work, the interpretation and consultation. A roentgen department with such a head, would have a very marked stimulating influence on the scientific work of the hospital, and by making his department a social as well as

a scientific center for the work of the hospital in giving the staff a chance of meeting each other such as is nowadays seldom afforded.

Under such conditions, roentgenology holds possibilities for development that should tempt any man who loves pioneer work. The "fascination of discovery is great," and the application of roentgenology to other branches of medicine constitutes a rich field of research.

THE SIGNIFICANCE OF GASTRIC SYMPTOMS.*

L. B. NEAL, M. D.,
JACKSON, MISS.

The vast majority of patients who present themselves complaining of gastric symptoms do not have gastric disease. Practically all diseases disturb either the motor or secretory function of the stomach.

Dr. Will Mayo has compared the relation of the stomach and the rest of the body to that of the central fire station of a city, if we have disease of other organs of the body, digestion is disturbed and we have gastric symptoms just as the bell rings at the central station when we have a fire in any part of the city.

Treating the stomach for symptoms produced by disease of other organs is just as rational as it would be for the fire department to throw water on the bell at the central station and expect to extinguish a fire in some distant part of the city. I shall discuss some of these symptoms.

While pain in the region of the stomach may be and often is caused by disease of the stomach or duodenum it is also frequently caused by colitis, renal colic, hepatic colic, hernia in the linea alba, parasites, appendicitis and the lighting pains of tabes.

Vomiting may be caused by pressure from without, aneurism, new growths, drugs such as anesthetics, tobacco, ipecac or apomorphia, the onset of acute infections, uremia, diabetes, pregnancy, acute yellow atrophy of the liver, cyclic vomiting, peritonitis, appendicitis, intestinal obstruction, intestinal worms, biliary and renal colic, concussion of the brain, cerebral tumors, cerebral hemorrhage or abscess migrane, epilepsy and sea sickness. I have omitted diseases of the stomach causing vomiting to show the preponderance of extra-gastric causes.

Hemorrhage from the stomach is frequently caused by cirrhosis of the liver. Splenic anemia and jaundice, also hemophiliacs may bleed from the stomach. Belching is more of a habit than due to any disease.

The syndrome of symptoms given by patients who come complaining of indigestion, nervous indigestion or gas on the stomach are much more often caused by diseases of the lungs, (especially if the lower lobes are involved), organic or functional heart disease, diseases of the liver, gall-bladder, appendix or thyroid gland, and last but by no means least by intestinal parasites, especially hook worms, than they are by any disease of the stomach.

I shall report three cases to which the above remarks apply:

1. Mrs. S., age 58, housewife. Referred on account of persistent vomiting with great loss of weight and strength, she was vomiting practically everything eaten and her home physician suspected carcinoma of the stomach.

Examination of her urine showed both sugar and acetone. She was put on alkalis and diabetic diet and kept under observation for a few days while a careful search was made for any disease of the stomach or bowels, no disease other than the sugar and acetone in the urine was found. She immediately stopped vomiting and began to gain and in a short period was apparently well. No insulin was given, her urine was watched for some time and although there was very little restriction as to carbo-hydrates she remained clear of sugar.

*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

2. Mr. D., age 56, merchant, came to me against his doctor's advice with a diagnosis of malaria and ulcer of the stomach. He had a severe cough, pulse 104, temperature 101, and respiration of 36, coughed some blood and had all of the physical signs of consolidation of the right lower lobe. X-ray pictures confirmed the diagnosis of lobar pneumonia. A report of these findings with the X-ray were sent to his home physician who said that we didn't know what we were talking about that he knew malaria when he saw it.

3. Mr. A., age 47, teacher. Referred by his home physician with a diagnosis of peptic ulcer, complained of all of the classical symptoms of ulcer and a diagnosis could easily be made of ulcer by the history alone, however in bringing out the family history he told of a brother who had ulcer and was operated for it.

Routine examination of his blood showed eleven eosinophiles and his stool showed many hook worm ova. Thorough treatment with oil of chenopodium and carbon tetrachloride very promptly cured his ulcer.

While I have done my best to present to you some of the many causes of gastric symptoms other than disease of the stomach itself, I would not have you forget that ulcer of the stomach or duodenum and carcinoma of the stomach are frequently met with and I hope that these remarks will cause no one to be less diligent in their search for them.

DISCUSSION.

Dr. L. B. Hudson (Hattiesburg): When I studied medicine, as I remember, our professor of medicine spoke of diseases of the stomach and classified them into three main types—acute gastritis, chronic gastritis, and cancer of the stomach. That is not so many years ago. Now we are recognizing the fact that the stomach is only an organ that tells us of some other disease within the abdominal cavity or along the gastrointestinal tract. I like the illustration that Dr. W. J. Mayo uses—that of a fire department. I heard him liken the gastrointestinal tract and its diseases to a great railway system; the brain the chief dispatcher's office; running from mouth to anus is the main road, and the stomach is the first station. What happens when we have an acute appendix? The operator at the appendix wires the dispatcher in the brain, "We have a wreck down here; don't

send any more freight down—sidetrack it." But the freight leaves the terminal, and when it reaches the stomach it is rejected. In cases of chronic appendicitis, the signal is "slow orders," therefore slight nausea and indigestion results.

I thank the doctor for his paper. It was to the point.

Dr. George A. Hendon (Louisville, Kentucky):

I want to say a word or two concerning this question because of the fact that the organs in the abdominal cavity that are the least often diseased are the spleen first, and the stomach next. They are the two healthiest organs we have. It has been my privilege to open quite a large number of abdomens and I have been very much struck with the infrequency of disease of the stomach. Yet every patient, or a large majority of them, that come to you will say that they have stomach or liver trouble.

I am so glad that the recognition is becoming widespread that the stomach in itself is very rarely the seat of disease. As a matter of fact I do not believe in functional disease of the stomach; I do not believe in chronic gastritis; I do not believe in gastritis except that brought on by the induction of some irritant. I believe the only stomach disease we have to contend with is cancer and ulcer, and an occasional focus of syphilis in the stomach. Aside from these things the stomach cannot be regarded as a primary offender.

Dr. L. B. Neal (closing): I appreciate the discussion, especially the illustration of Dr. Mayo that was brought out. I would not, and could not, limit the diseases of the stomach quite so much as Dr. Hendon, because we do have other diseases of the stomach, and chronic atrophic gastritis we certainly do see occasionally. There is practically no such thing as acute gastritis, but acute inflammation of the stomach is a possibility. We do have chronic gastritis, and we do have disturbances of the stomach such as muscular weakness, where the stomach is weakened by ptosis and there is a physical inability to take care of its work.

I do not want in any way to be the cause of any man becoming lax in a close examination of ulcers of both stomach and duodenum, and especially in the early diagnosis of carcinoma. Some of our best authorities state that carcinoma is never an operable condition. I think that is a mistake. I have seen a few cases where diagnosis was made soon enough and resection done, and one case which was done three years ago is apparently in perfect health now.

X-RAY TREATMENT OF
EPITHELIOMA.*G. W. GRIER, M. D.,
PITTSBURGH.

One of the earliest uses of X-ray as a therapeutic measure was in the treatment of epithelioma. The results have always been reasonably satisfactory in whatever manner the rays were applied. Undoubtedly, much of the early work was done in a more or less haphazard manner as apparatus was inefficient, the output of the tubes inconstant and the methods of measuring dosage tedious and unreliable. Under such circumstances, the most practical and indeed the only safe way to treat was to apply fractions of a dose with intervals of time between to allow for effect and to continue this process until the lesion was healed. Thousands of cases of epithelioma have been cured by this method which is still in use to some extent today. The invention of the Coolidge tube made it possible to deliver large quantities of X-ray of a uniform quality in a short period of time. The logical outcome was the so-called "massive dose method of treatment." This consists in applying a single dose large enough to destroy the entire lesion at one time. By the fractional dose method, a gradual involution of the lesion takes place as a result of the progressive destruction of the cancer cells. This occurs without destruction of the normal tissues in the region because cancer cells are usually more susceptible to radiation than the normal cells. The objections to this method of treatment are that some lesions will not heal, probably because the cells of that particular lesion are more resistant and recurrences are more common after healing. As a cause of these recurrences, I offer the theory that the lesion will heal over when most of the cancer cells are destroyed but that a few cells which are left remain vital

and regenerate the lesion at a subsequent period. With the massive dose method of treatment, such a large dose is applied that the entire lesion including a margin of normal tissue is destroyed and sloughs away. The resulting wound heals by granulation. By this method, very few lesions fail of destruction and recurrences seldom happen, except when too small an area is treated and a few vital cancer cells are left in the margin of the wound. It might be asked if recurrences only happen when too small an area is treated, why not always include a wide margin of normal tissues around the lesion? The answer to this is that the treatment always creates a sloughing wound and the larger the wound the more difficult it will be to heal up. Where such a wound $\frac{3}{4}$ inch in diameter heals readily one which is two or more inches across might give considerable trouble. For this reason, any unnecessary exposure of normal tissue around the lesion is not desirable. I usually allow a margin of $\frac{1}{8}$ inch of what appears to be normal tissues around the lesion.

The technic which I employ in this massive dose method is 5 milliamperes of current with a 7 inch parallel spark, at 10 inches distance from the tube target to the skin, using no filter of any kind and applied for ten minutes. This treatment is repeated every day or every other day until two, three or four such treatments have been given. The number of treatments depends upon the severity of the lesion. This is judged mainly by the depth to which it extends and the thickness and hardness of the edges. Small superficial lesions are given two treatments and large lesions with thick edges are given four treatments. A great majority are given three treatments. Lesions on the lip and on the hand seem particularly resistant and are never given less than four treatments. With this technic, from three to six minutes produces an erythema, depending upon the size of the area exposed. This is a point not often touched upon but will bear emphasis. An

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

area $\frac{1}{4}$ inch in diameter will require 6 minutes with these factors to produce an erythema while an area two or three inches in diameter would get the same effect in two minutes or less. The amount of treatment given is, therefore, many times an erythema dose and produces actual tissue necrosis.

An X-ray burn always results from this treatment. It heals up readily, first, because the area involved is comparatively small and, second, the actual escharotic effect is quite superficial. It is well known that the percentage of soft rays in any unfiltered X-ray beam is very high and it is these rays which produce the tissue necrosis by this method. One might imagine that the more deeply situated cancer cells would not be reached unless a filter were used. However, a moment's reflection assures one that the more penetrating rays in the beam are there whether a filter is used or not and nothing is lost in this respect by omitting the filter. On the other hand, if an escharotic dose of filtered radiation is used, an obliterating endarteritis results in more or less deep seated tissues and such a wound will be very difficult to heal. I wish to reiterate that this technic is not to be used with filtered radiation.

The patient should be told at the beginning that the treatment will produce a "running sore," but if it is left entirely alone, it will heal up in three or four weeks. It is very important that no dressing of any kind shall be kept on the lesion and that no effort shall be made toward antisepsis. The resulting wound will, of course, be an infected wound and will discharge pus, often very freely. However, in a short time the dried secretions will form a scab which protects the wound. The pus will not continue to drain very long after this scab forms. The scab will be lost off from time to time and a new one will form, each succeeding one being smaller until finally the wound is healed up. The patient should be told emphatically not to remove scabs nor

put anything at all on the sore except water. The sloughing begins about two weeks after the treatment is given and it requires about three weeks more for it to heal up. If the lesion is situated on a part of the body covered by clothing, the progress of the case is not always so satisfactory. Exposure to the open air appears to be essential if the wound is to heal readily and some sort of dressing has to be devised to meet this requirement. I often resort to the use of the vaccination shield for this purpose but even with this the part is still covered by clothing and does not heal promptly. For this reason, I give about one-third less treatment to a lesion which is covered by clothing than to a similar lesion located on the face or hands. Fortunately, epithelioma in such locations is rare.

As stated before, two, three or four treatments are given. These may be given one every day or every other day. These treatments are close enough together that the effect has not worn off in the interval between treatments. The dose may be given at one sitting if one has sufficient experience to know how many minutes to give to destroy that particular lesion. There seems to be a little bit more leeway if the dose is divided. There may also be a theoretical advantage in treating on three or four different days in that it is possible that cancer cells may be undergoing division at different times and one would thus multiply his chances of catching them in a more susceptible stage.

It must be emphasized, however, that the same effect will not be obtained at all by giving one of these treatments of unfiltered radiation every two or three weeks as is the common practice in using low voltage filtered radiation. To use this method of treatment successfully, it is necessary to examine the lesion carefully, decide the number of treatments to be given, apply them and wait for results. In making this decision, it is well to remember that most failures in radiotherapy are due

TABULATION ACCORDING TO LOCATION

	CASES TREATED		CURED		Original Lesion Cured Metastasis Not Cured		RECURRED		FAILED	
	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26	1915-21	1921-26
Epithelioma Scalp	4	1	4	1	—	—	—	—	—	—
Epithelioma Forehead ..	24	48	24	46	—	—	—	1	—	1
Rodent Ulcer Forehead	3	—	2	—	—	—	—	—	1	—
Epithelioma Face.....	53	71	53	69	—	—	—	1	—	1
Epithelioma Temple.....	18	—	18	—	—	—	—	—	—	—
Rodent Ulcer Temple....	7	—	5	—	—	—	—	—	2	—
Epithelioma Ear	22	23	22	18	—	—	—	1	—	4
Rodent Ulcer Ear.....	5	—	2	—	—	—	—	—	3	—
Epithelioma Eyelid	48	24	41	18	—	—	6	4	1	2
Epithelioma Eyeball	4	5	4	5	—	—	—	—	—	—
Sarcoma Eyelid	—	2	—	1	—	—	—	—	—	1
Epithelioma Nose	73	73	73	70	—	—	—	1	—	2
Epithelioma Upper Lip	7	—	7	—	—	—	—	—	—	—
Epithelioma Lower Lip	23	33	19	25	—	3	2	—	2	5
Leukoplakia Lip	7	6	7	6	—	—	—	—	—	—
Epithelioma Neck	8	12	7	10	—	—	—	—	1	2
Epithelioma Chin	—	5	—	4	—	—	—	—	—	1
Epithelioma Hand	6	13	6	13	—	—	—	—	—	—
Carcinoma Cheek	1	—	1	—	—	—	—	—	—	—
Carcinoma Back	1	—	1	—	—	—	—	—	—	—
Carcin. Nodule in Scar.	1	—	—	—	—	—	—	—	1	—
TOTAL....	315	316	296	286	—	3	8	8	11	19

FAILURES AND RECURRENCES.

	CASES	APPARENT CAUSE OF FAILURE.	FINAL RESULT
Epithelioma Forehead	2	1 case previously treated with radium—quit treatment. 1 case recurred three times.	Not known. Well when last heard from.
Epithelioma Face.....	2	1 case recurred.	Responded to further treatment.
Epithelioma Ear.....	5	1 case unaffected, probably not epithelioma.	Unimproved.
		2 cases middle ear involved.	3 Dead.
		1 case cartilage involved.	1 case cured by operation, subsequently.
		1 case died of intercurrent disease.	
		1 case recurred but responded to further treatment.	1 cured.
Epithelioma Lip.....	8	3 cases unsuccessfully treated with radium previously.	8 dead.
		1 case unsuccessfully treated with X-ray previously.	
		1 case unsuccessfully operated previously.	
		3 cases primary lesion cured but metastases unaffected by treatment.	
Epithelioma Nose.....	3	2 cases, lesion inside nostril treated with X-ray and radium but did not respond.	2 not cured.
		1 case recurred but responded to further treatment.	1 cured.
Epithelioma Eyelid....	6	Four cases recurred:	
		1 case lid was destroyed by caustics before he was seen.	3 cases cured.
		1 case quit treatment.	1 case quit.
		2 cases recovered following treatment for recurrence.	
		2 failed to respond to treatment.	2 uncured.
Epithelioma Neck.....	2	1 case not heard from.	Unknown.
		1 case failed to respond to treatment.	Unknown.
Sarcoma Eyelid	1	Post-operative case, was not influenced by treatment.	Disease progressing.
Epithelioma Chin.....	1	Recurred—treated elsewhere with radium.	Died.
TOTAL.....	30		

to under dosage and it is better to give one treatment more than is necessary than one treatment less. No ill effects will follow up to four treatments and if the lesion is on the lip or hand, or it is a very large, thick and indurated lesion, five may be given. If on a part of the body covered by clothing, two or three treatments are safer. If a margin of the lesion happens to escape treatment and remains after the rest is healed, it may be treated as a primary lesion of similar size. Such an area is usually small and one or two treatments over that spot only will cause its disappearance. The scar is generally a soft and pliable white scar and seldom gives any trouble. Occasionally, telangiectases will develop in the scar in the individuals who appear to have a predilection toward such a condition. If recurrence takes place in the margin of the scar at a subsequent date, it may be treated with the usual technic. However, if the recurrence is located fairly in the scar so that it is entirely surrounded by scar tissue I believe it is unwise to treat with this technic as the lowered vitality of the tissues in the scar may prevent healing. Such a recurrence, if not too large may be successfully treated by fulguration, or, if this seems unlikely to succeed it is best to have the whole area excised surgically. In lesions having very thick edges or where there is much superfluous epithelium as in some horny growths the use of fulguration to destroy this excess is often a valuable procedure preparatory to X-ray treatment. I have never thought very favorably of the use of curet for this purpose.

Lesions involving the cartilages of the ear, the cartilages of the nose or periosteum anywhere will probably not be cured by X-ray treatment alone.

In 1921 I reported 315 cases of superficial malignancy which had been treated largely by this method. Of 315 cases 74 had been treated partly by filtered radiation. There were 26 recurrences in that series, 18 of which were cured by subsequent

radiation. I came to the conclusion that this high percentage of recurrences was due to under-dosage and the use of filtered radiation. Since that time, I have not used filters at all in these cases. In 316 cases treated since that time there were only 8 recurrences and 4 of these responded to further radiation. The accompanying table includes the 315 cases reported in 1921 and also 316 cases treated since that time. The 1921 tabulation does not show the 18 cases which recurred and were subsequently cured, otherwise, these two series of cases are comparable and the results are remarkably similar. An analysis of the failures does not reflect adversely upon the method. Eight of the lip cases were hopeless when first seen. Five of these had been inadequately treated previously and had advanced to an incurable stage and 3 had large metastases in the neck. Treatment was known to be only palliative when it was undertaken. The two cases of middle ear involvement and two extending into the nostril and the case of sarcoma of the eyelid, which had recurred 3 times after operation, likewise seemed sure to fail. Two cases quit treatment and one has not been heard from, which only leaves 7 of 316 cases which it seems should have been cured but were not.

CONCLUSION.

Epithelioma of the skin is most successfully treated by an escharotic dose of totally unfiltered radiation. This dose may be given at one sitting or subdivided into two, three or four treatments. If subdivided, the interval between treatments must be so short that there is little or no loss between treatment, the effect being practically that of a single dose.

DISCUSSION.

Dr. S. C. Barrow (Shreveport): The treatment of epithelioma or the treatment of surface malignancy is entirely different from that of deep malignancy. I have a good friend over in our neighborhood that always argues with me relative to the massive dose versus the divided dose, and I have always taken the stand that the massive dose was the method. In deep malignancy we have

to rely upon the forces of nature to heal as well as the destructive forces of radiation to kill. In surface malignancy we have to rely only upon the destructive forces of radiation to kill, nature healing over as in an ordinary wound.

The first epithelioma I treated was in 1904, down in the country, operating a static machine pulled by a gasoline engine. Since that time we have followed the gamut of X-rays and radium in their treatment, and today I don't know which is preferable. I don't think in all cases anything is preferable but each case is a law in itself.

Out of the 100,000 people that die of cancer per year, I would judge that at least 50,000 of them originate on the surface of the body, and I believe with the proper use of X-rays, radium and fulguration, fully seventy-five per cent of those, or possibly more, I think Dr. Grier would say, could have been cured if caught at the proper time by one of these agents.

The case which we show you here is in a very dangerous part of the body and was the first case that we treated with radium. The result was from one dose, one we called at that time and do yet for that case, a massive dose. He went home and came back after eight weeks with only a tip there. I have observed the man for seven years and he is still well. This is in the angle of jaw and I feel the result is all that can be desired. (Illustrated cases with slides.)

Second case: I don't attempt today, gentlemen, to treat an epithelioma or a carcinoma of the lip with X-ray or with radium. I mean in these recent days. I have done it. This gentlemen had a heavy carcinoma involving the lip. He is a brother of a doctor who may be here today. Under a heavy dose of radiation we destroyed effectively the carcinoma, X-raying intensively the glands of the neck.

Third case: Dr. Grier was talking about massive doses. Here is a condition over the neck and ear in which we gave the man seventy-five erythema doses, seventy-five times the unit dose, or rather 150 milliamperes minutes. In eight weeks he came back and we had that condition (illustrating) with a complete regeneration of the ear. The man, however, I am sorry to say, died later because of a deep involvement which we were unable to reach.

Fourth case: This man got fifty times an erythema dose as estimated by us at one dose, and he returned in several weeks with only a dimple here. I observed him for fully five years and he remains well. Of course, he got in addition to the superficial radiation, heavy radiation all over the neck and upper chest at the same time.

I feel that we should thank Dr. Grier for coming and bringing before us a subject of such vital importance, and I have confined my remarks to radiation strictly, not meaning fulguration, which I hope to hear Dr. Grier bring out later and discuss at that time.

Dr. Grier (in closing): Dr. Barrow has expressed my ideas exactly with reference to deep seated malignancy. A case of that kind has to be attacked in an absolutely different manner. Superficial malignancy of course can be destroyed and the slough if the wound is small will heal up by granulation.

My experience in epithelioma of the lip has been a little bit different from his. It is quite possible, as I have said before, that the cases of cancer of the lip that I see which have been treated previously by surgery are those in which surgery fails. Possibly my failures go to the surgeon and he thinks the radiation is no good and neither one has a proper understanding of the entire subject.

I say the X-ray will destroy a malignancy on the lip with a great deal better cosmetic result and just as surely as it can be done by surgery. I don't know whether he referred to radiation alone in this case of his in which the lip was destroyed. Was that treatment with X-ray?

Dr. Barrow: That was done by X-ray radiation, by direct application.

Dr. Grier: I feel it is wrong to put radium needles into a cancer of the lip because it always results in an infected slough which it is almost impossible to heal. We all know that cancer thrives in an infected sloughing area. So I never would insert radium needles in the lip. With X-ray I think there are some fifty cases of cancer of the lip reported there. I remember the first ones that were reported nineteen out of twenty-three were cured. The last series of cases here, as I explained included eight which were absolutely incurable when first seen. Three or four were operated on and had recurrences following operation. One had been treated with radium and became an infected slough. Another had been treated with too small doses of X-ray.

I feel that one must, in treating cancer of the lip, use a dose suitable for that location. If you find it on the face it perhaps can be removed surgically but if it is on the lip the patient's life will probably be lost because by that time it metastasizes into the glands of the neck.

I am very glad indeed to have had this opportunity of addressing this audience.

CONSTIPATION.*

L. CARL SANDERS, M. D.,
MEMPHIS, TENN.

Constipation is a condition of abnormally retarded elimination of the intestinal contents. It is observed in patients of all ages, sex and social environment. In the earlier literature stress was placed upon tight lacing and sedentary habits as the cause of constipation in the female sex. In this age of equal suffrage, women have discarded the cumbersome stays and trailing dresses and have gone to the fore in competitive sports. Men in the rush of business life spend long hours indoors and neglect the necessary exercise essential to proper intestinal function. As a consequence we find constipation about equally distributed among the male and female sex.

In recent years better knowledge of the physiology of intestinal peristalsis, clearer interpretation of the nervous mechanism of the bowels and familiarity with the hormones of the intestinal juices have been important advances in the clinical study of delayed bowel action.

The neuromuscular system of the intestinal tract has a certain independence but the intrinsic muscles are stimulated through the vagus and inhibited through the sympathetic system. The peristaltic contractions of the colon are long waves which obliterate the haustrations during activity. These contractions are produced by stimulation of the nervous mechanism. Muscular irritation through catharsis, food imbalance and other influences disturb the normal function and produce abnormal elimination. Our interpretation of the factors which produce this abnormal function is necessary intelligently to institute treatment. A careful history is absolutely essential in determining these factors.

CLASSIFICATION.

By the use of the modern X-ray, particularly flouroscopy, we are able to classify constipation into three types:

1. Spastic.
2. Atonic.
3. Obstructive.

Sometimes more than one type is observed in the same individual; particularly is this true with the spastic and obstructive types. Clinically the form of stasis can very often be ascertained without resort to X-ray. A study of the symptoms and a physical examination gives a fairly clear insight into the condition present.

SYMPTOMS.

There are a certain number of people habitually constipated who live a normal life, eat a balanced diet, take regular exercise and have no other symptom than constipation. As a rule those who seek medical advice have other symptoms which are outstanding in their minds. Fullness after eating, eructation of gas, acid dyspepsia, coated tongue, nausea, headache, vertigo, soreness and mild abdominal pain and insufficient elimination are the common symptoms. Very often there is fecal impaction with symptoms of intestinal obstruction.

Spastic constipation is present in those patients who have small soft stools, often ribbon like, with griping pains in the lower abdomen accompanied by flatulence. The colon is contracted and the haustral markings are close together, often almost obstructing the lumen. This condition is frequently spoken of in the literature as "irritable colon."

It is a recognized fact that chronic appendicitis and gall-bladder disease commonly produce spastic constipation through reflex stimulation of the nerve center located within the intestinal wall. Alternate constipation and diarrhea is an important symptom in chronic cholecystitis and it is frequently observed that colonic stasis is relieved promptly after the re-

*Read before the Mississippi Six Counties Medical Society, at New Albany, Miss., July 21, 1926.

moval of a diseased appendix or gall-bladder.

In atonic constipation the stools are dry, hard, usually in lumps and often covered with mucous. Under the flouroscope the colon is found to be large, the haustral markings are shallow and far apart. Visceroptosis and obesity are often present. Patients with this type of constipation of long standing usually are pale or have a pasty, sallow color.

Obstructive constipation is found in diseases of the rectum which obstruct the outlet, particularly hemorrhoids, fistulae, benign and malignant structures, tumors of the pelvic organs or displacements, tumors within the abdomen, either intrinsic or extrinsic, adhesive bands which narrow the lumen of the bowel and fecal impactions.

TREATMENT.

The treatment of constipation is first of all finding and removing the cause. This is not an easy task, in many instances demanding a thorough and painstaking study.

HABIT.

A large percentage of constipated individuals owe their poor elimination to neglect. A regular time for stool is very important. In the morning after breakfast is the ideal time because the column of fecal matter has entered the recto-sigmoid during the night, the taking of food stimulates peristalsis and the pressure of feces in the rectum excites the muscle sense reflex and the call to stool is sent to the higher centers. At stool the sphincter ani relaxes and by the law of contrary innervation the rectum contracts expelling its contents. After the first fecal mass has been expelled, the rectum expands, the rectosigmoid valve relaxes and the remainder of the feces from the descending colon enters the rectum and is expelled. This completes the emptying of the entire descending colon under normal conditions.

When people are busy and disregard the desire for stool, the stimulus gradually diminishes and soon is entirely lost so that the presence of feces in the rectum produces no desire for stool. Thus the habit is broken and constipation results.

DIET.

It is always necessary to know the quantity and character of the food taken. We know that in atonic constipation a diet rich in residue is essential and in the spastic type a non-residuous diet is indicated. In the present rush of business life, attention to a balanced diet seems to have lost the necessary importance. Food is too often chosen because of its ease of preparation with no thought of a balanced ration. Rapidity in eating and improper mastication of food lead to poor digestion and fill the colon with coarse, irritating food residue. In our laboratory it is not uncommon to find in feces whole grains of corn, beans, large hunks of meat, vegetables unchanged and quantities of seeds. It is not surprising to see an irritable colon after the ingestion of such coarse material.

In spastic constipation the diet of choice is non-irritating and free from food bulk; creamed chicken, cereals, eggs, potatoes, spinach, mashed peas, carrots, creamed soups, custards, jellies, ice cream, orange juice, milk and toast in proper combination will furnish the food values and leave the minimum residue to be eliminated. The foods to be avoided are coarse vegetables, fried food, citrous fruit, pork, condiments, gravies, sweets, acids and soups made from meat stock.

The diet in atonic constipation should consist of food which will stimulate peristalsis and furnish bulk to the stool. Coarse vegetables, meats, citrous fruits, vegetable soups, meat broths, whole wheat bread, bran, coarse cereals, and salads should be eaten. Food containing a high starch content and fats should be avoided.

EXERCISE.

Very few people who take strenuous exercise suffer with constipation except in the presence of some organic or mechanical condition. Sedentary work produces lax abdominal muscles and leads to adiposity and visceroptosis. Special physical exercises, walking, golf, tennis, swimming and calisthenic exercises are essential to promote muscle tone. In order to secure lasting results from exercise the patient must choose some form of exercise which has enough sport in it to be interesting. A lonely walk on a cold rainy day is not a pleasant pastime to one who has long walks prescribed for him by his physician. Any course of exercise can be followed provided it has the appeal to that spirit of competition so great in the American people.

MEDICATION.

The last measure to be considered is the administration of drugs. Most patients who are constipated have the cathartic habit when they seek medical advice. A common practice among the laity is the taking of a purgative for all ailments. A person who has not had a satisfactory stool will take a drastic purge, the result being a copious, watery stool and consequently a dehydration of the intestinal canal. The action of the drug increases peristalsis, irritates the gut wall and for a few days the function of the entire tract is inhibited. Another purge is taken which further disorders the normal physiology of muscular control, until finally the cathartic habit is formed. The enema habit is equally condemned, for the same reason.

If a careful search for the cause of the colonic stasis is made and the type of constipation, whether spastic or atonic, is determined, the treatment falls into a definite therapeutic measure fairly simple.

In many instances the measure already discussed will be sufficient for proper elimination. There are, however, definite indications for drug therapy in all cases where correction of faulty habits and removal of

the cause has not restored the function to normal.

Mineral oil combined with agar agar in the form of an emulsion is a non-irritating substance which lubricates the entire canal, soothes the mucous membrane and insures the smooth easy passage of the fecal column through the large bowel. The dosage must be regulated by the results. From one to two ounces daily is usually sufficient.

In very obstinate cases stronger laxatives are sometimes indicated. Cascara or the heavy oxide of magnesia in graduated doses can be added in quantity sufficient to produce results and gradually withdrawn. After the habit of regular stool is formed, the diet and exercises controlled, all medication can often be discontinued.

Belladonna or atropine given to the physiological limit is of valuable service in quieting the spasm of the intestinal wall in spastic constipation.

A simple fruit mixture which I have prescribed for a number of years has been very helpful, particularly in the atonic type of stasis. It consists of:

Cooked prunes (seeded)	1 pound
Dried figs	1 "
Dates (seeded)	1 "
Agar agar	2 ounces
Senna leaves	2 "

This mixture is run through a meat chopper several times until it is thoroughly mixed and pulverized and then made into a cake, which is in turn cut into blocks one inch square. The dose is one block taken at bedtime.

Finally stress must be placed upon the amount of fluids taken. A glass of water before breakfast and a glass after each meal is very helpful. Fluids furnish moisture and aid in the smooth passage of the fecal column through the intestinal tract.

Prolonged treatment and observation is necessary in constipation. Every patient should be impressed with the necessity of

routine measures and should be warned against the taking of cathartics. In no other condition is co-operation between patient and physician more necessary than in the treatment of constipation.

SUMMARY.

1. Constipation is not a disease but a condition of abnormal intestinal stasis which is often caused by irregular habits, imbalanced diet or is reflexly produced by some abnormal condition of the gastro-intestinal tract.

2. There are three main types observed, spastic, atonic and obstructive.

3. The severity of the symptoms is in direct proportion to the degree of disturbed function observed in the gastro-intestinal tract.

4. The treatment is, first, the removal of the cause; second, the re-establishment of the normal intestinal peristalsis by regulation of habits, diet, exercise and by discontinuing catharsis; third, by the use of drugs which are non-irritating, chiefly mineral oils combined with agar and in obstinate cases the temporary addition of cascara or magnesia.

CONSERVATION OF THE PERINEUM DURING LABOR.*

PHILIPS J. CARTER, M. D.,

NEW ORLEANS.

Experimental and progressive medicine is making possible the survival of the fittest, through conservation of the human organism. Eagerness for better obstetrics through parental care is conserving the rights of the unborn babe, at the expense of the maternal organism, by more radical procedures.

Normal obstetrics should be our slogan for better obstetrics. Purposely to change

normal into abnormal obstetrics, in order to shorten the second stage of labor, except when there is delay, or for the convenience of the accoucheur, is not justified, and is to be condemned.

Many obstetrical tragedies would be prevented, could the public be educated to the fact that preservation is not a one day, but a life long thought, beginning with our very existence in the world. "We reap what we sow," and then wonder why nature does not heal all illnesses.

To preserve the whole we must preserve its parts, but not at the expense of one another. To preserve the perineum of a parturient in labor, we must preserve her whole organism before she goes into labor. We should go back before the advent of pregnancy, and caution our patients, that they may become mothers, and impress upon them that self-preservation is the first requisite for existence, that abuse of this may result disastrously in the struggle for existence.

A careful physical and pelvic examination is imperative, in order that muscle tone and general body wasting may be detected and proper treatment instituted. Attention to bowels and kidneys, proper exercise, clothing, and hygienic measures, should be routine in all our cases.

Being assured that the pregnant woman is in excellent health, is no criterion that she is not subject to diverse diseases, which may at any time undermine her health. Therefore it behooves us as physicians to keep a constant lookout for our patient by regular periodical examinations of their heart and lungs, kidneys, blood pressure, weight, etc., and have her report any abnormal thing that may occur. A complete physical examination should be made in every case in her eighth month of pregnancy, with special attention to her pelvis, both bony and soft, and to the presentation and position of the baby. At this time a fair estimate of the durability and elasticity

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of the perineum and vaginal floor may be ascertained, and a relative estimate of perineal damage that may occur during delivery. This is gained by introducing the index and middle fingers of one hand into the introitus as far back as the levator ani muscle can be felt (usually about four inches), and then spreading the fingers apart, depressing and withdrawing them with firm pressure, over the posterior vaginal floor and perineum. The resistance encountered is the index to the amount of durability and elasticity. The position of the head in the last trimester, especially in primipara, is a very important matter in the determination of this point. In many cases where for no apparent reason the head rests high in the pelvis, this fact will directly affect the elasticity of the perineum and posterior vaginal floor, concealing in reality the nature of the soft parts, because no pressure is brought to bear on these parts. The examining finger in such a case will meet with great resistance in most instances, but firm pressure with the fingers along the posterior vaginal wall, will give you the index as to the amount of expected relaxation and elasticity.

A head that is already engaged in the pelvis, before the onset of labor, will by its own pressure, together with the increased abdominal pressure, cause a lowered tone to the pelvic muscles, paralyzing them to a certain extent, and consequently lessening the rigidity; thus causing a slow dilatation of the birth canal before the onset of labor. A previous relaxation and stretching of these structures naturally favor a more normal delivery than when the head is high in the pelvis.

In my experience I feel convinced that the pubo-coccygeus portion of the levator ani muscle is the direct and predisposing factor in all tears of the birth canal. This, however, does not hold true where obstetrics is abused, or where there is great disproportion between passage and passenger. When this large sling like muscle,

encircling closely as it does, the sides of the vagina, and passing under the rectum as a mechanical and physiological support to that structure, contracts, the rectum and vagina are both brought up against the pubes, and at the same time the anus and lower part of the rectum are drawn backward by the action of the rectal sphincter. This is the normal physiological action of these muscles.

The descending head, where passage and passenger are normal, meets with little resistance after complete filtration of the cervix, until it strikes the beginning of the posterior vaginal floor. The first resistance then met, is the broad fan-like iliococcygeus portion of the levator ani muscle, whose entrance may be compared to a funnel, with its base pointing toward the hollow of the sacrum. The head readily descends into the base without much resistance. As the occiput reaches the middle plane of the posterior vaginal floor, a trying ordeal for the patient begins, in that it strikes the pubococcygeus muscle, and this must be passed before extension of the head can occur.

In reviewing the mechanism of labor in normal presentations we are taught to reckon with the pelvic outlet as a bent cylinder, with a downward, inward, and upper curve, through which the foetus must pass, during its descent through the pelvis. Sellheim explains the mechanism of delivery through such a cylinder by "the law of the accommodation of elastic resistance to the shape of the container."

We are again taught that the occiput as it descends along the sides of the pelvis is directed under the pubes. Theoretically this is true, but is it true practically? The levator ani muscle acts as a sling or gutter, from the sides of the pelvis, with the direction of its canal from behind forward (DeLee). The levator ani is conceded by many to be a paired muscle, an iliococcygeus and pubococcygeus. The iliococcygeus has no other function than that of

supporting the viscera, and readily admits and allows the foetal head to pass without much resistance. The pubococcygei are the most influential supports of the pelvic floor and restore the pelvic floor to its proper position after the depression induced by parturition, defecation, and efforts at urination. Normally they pull the perineum upward after the descending head has pulled it down. In some cases the contraction of the muscles actually obstructs the descent of the head (Peter Thompson).

DeLee says our best efforts should be directed to preserve the levator ani, the perineal ones being less harmful, and yet it is the prevention of perineal lacerations that occupies so much of the accoucheur's attention.

In its descent through the parturient canal, the foetal head becomes more and more flexed, with exaggeration as the occiput strikes the pubococcygeus muscle. Examination at this stage in the average primipara and a large percent of multipara will reveal a marked depression between the occiput and the pubococcygeus muscle, which indicates that the head is descending in a downward direction posterior to the sling muscle and behind the rectum. The firm thick pubococcygeus muscle acts as a barrier to the beginning ascent of the head, and as the tissues posterior to these muscles are more elastic, the occiput seeks the line of least resistance. With what results? The constant pounding on the barrier muscle will soon cause oedema, not only *per se* but of all structures anterior to it. The ultimate outcome is a paralysis of the levator muscles, allowing the head to jump over its sling, meeting with understretched and undilated oedematized perineal structures, with possibility of brain injury to the infant from forced pressure against these structures.

In order to combat this tragedy, or to minimize the danger anticipated, we must know the mechanism of labor in its final

stages, and conduct it as thoroughly as we can.

Prevention is better than cure, is an old adage, known to us all. Some of our cases are going to give us trouble no matter what we do. Some are going to tear in spite of our care and some are not. All things being equal we should give the patient the benefit of the doubt, and try to preserve her structures at the cost of a possible small tear. I am not against operative procedures for without them we could not do obstetrics. I am for normal obstetrics, but when we make abnormalities by routine or promiscuous episiotomies, forceps, or podalic version, to shorten the second stage of labor, before adequate means have been thoroughly tried to prove their worth, it is not the teaching of better obstetrics today.

There is a test method that has been very valuable in my hands, and I am sure in the hands of a great many of you. I make no plea for its originality, but its application will greatly modify the morbidities and fatalities in our daily practice. It is a question of proper dilatation and support of the levator ani and perineal muscles together with their contiguous structures. The method is similar to the manual dilatation in our hurried forceps operation, though less intense and of longer duration.

Dilatation of the vaginal canal is begun when the cervix becomes fully dilated, or in exceptional cases, shortly before. The index and middle finger of one hand (preferably the right) are introduced into the vagina as far back as the head can be felt, and the vaginal floor and perineum are ironed out. The pubococcygei muscles can easily be felt as two roundish pillars at the sides of the vagina, and at times may become very rigid. This rigidity is overcome by placing both index fingers in the vagina and massaging in a downward and outward direction. The whole procedure is to be a slow gradual ironing out process, preferably during pains and for a few seconds

after the pain has subsided. The maneuver is to be gentle to prevent injuring and tearing the structures. It is done with very little discomfort to the patient, and without anesthesia, and many will be conscious of the helping effect. By the time the head reaches the pubococcygeus muscle, the muscle will be so stretched and paralyzed that the head at once passes over with little tension, and the occiput will become impinged under the symphysis.

Now, with dilatation complete and the occiput under the symphysis, the support begins. Its purpose here is two-fold: First, it brings the levator ani muscle (which is now stretched and sagging) back to its anatomical position, by placing the tips of all the fingers of one hand posterior to and behind the rectum, and raising this structure by the force of the fingers. This is done during each pain. The second function is a result of the first. By elevating the tips of the fingers the third stage of labor is completed, that of extending the head. This should be a slow and gentle maneuver. With the occiput under the symphysis during the advent of a pain, the left hand (palmar surface) is allowed to rest on the advancing occiput, but no pressure exerted. The right hand with the tips of the fingers supporting the levator muscle posterior to the rectum, will grasp the baby's forehead at this point, and the foetal head can be held in this position until further dilatation is accomplished. This position is maintained during each subsequent pain, until sufficient dilatation has occurred for delivery, when a few whiffs of ether are given as the head is being born. The delivery is done by the accoucheur and not by the patient. A well thinned out vagina and perineum will usually tear if the patient delivers herself, on account of the expulsive force she exerts at the final stage. If done slowly in the manner outlined, tears will be negligible. The fixed head in the accoucheur's hand as it extends will gradually be born. The finger tips experience the displacement of forehead for chin, while

the upper hand with the aid of the thumb and fingers, slowly peel the perineum over the brow, nose, and chin, as the head makes its exit from the vulva.

In forceps deliveries the same method is applied, the left hand holds the shank of the forceps instead of its place on the occiput, and the fingers of the right hand support the perineum from beneath.

Many perineai are conserved by the application of these principles of dilatation, support, and ether anesthesia. Many are not conserved because we wait until an emergency arises before ironing out the parts, and then it is done hastily and more damage is done by the ironing process, than by the anticipated operation. I have used this method of delivery in a great many cases, and must admit before its use, I rarely delivered without tearing, but now the reverse is the case.

In home deliveries the patient should lie on a non-resisting surface, usually the kitchen table or a good strong ironing board placed between the mattresses of the bed. A resisting surface will not permit of the perfect levator support.

This method is the secret of success in the Potter version, for it is not so much in the actual delivery, as it is having a thoroughly dilated vaginal canal and outlet.

Many practitioners endeavor to prevent peritoneal lacerations by supporting the perineum, by actually laying the palm of the hand on the structure and pressing firmly during the acme of a pain. This method was mentioned by Playfair in 1885, and was condemned in that the method not only failed to prevent, but actually favored lacerations, in consequence of the pressure producing uterine action just at the time when forcible distension of the perineum is likely to be harmful. Others held that the perineum should be left entirely alone and that the head should be allowed gradually to distend it, without any assistance on the part of the practitioner. Goodell placed one

or two fingers of the left hand into the rectum by which the perineum could be hooked up and pulled forward over the head, the thumb of the same hand being placed on the advancing head so as to restrain its progress if necessary. Playfair recommended slight incisions on each side of the raphae when great distention occurred, but doubted its usefulness. Our progress has been the result of the teachings of these great men, and we would do well to pause and go back and study with them a little while longer.

The episiotomist contends that the clean cut, made with the scissors or knife, leaves an even clean cut surface to be sutured, and usually does an epistiotomy before the supreme test of the perineal resistance is made. The statement was made forty years ago, that when a distended perineum ruptures, its structures are so thinned that the tear is always linear, and as a matter of fact, the edges of the tear are always as clean and as closely in approximation as if the cut had been made with the knife.

If episiotomy is made before or after thinning out has occurred, there will be retraction of the muscle fibres and elastic tissue cut through, producing a more or less uneven surface. A line of least resistance is thus established and the advancing head seeks this resistance, with the possibility of deepening the incision. Applegate, of Philadelphia, cites an instance of a well known successful gynecologist in whose practice, in a certain percentage of cases where he felt that episiotomy was indicated, lacerations extended from the depth of his incision to the pelvic bone, and one recently in three directions. In seventy-five percent of those operated, there had been no primary union or only partial union. He further states that by reason of the usual location of a perineotomy incision, the tissues involved and the disturbance of the circulation, make the secondary repair more difficult, than the secondary repair following a spontaneous

laceration, which has occurred at the weakest point in the perineum.

Another author says, that incision of the perineum is rarely, if ever, necessary, unless it is hardened by previous cicatrization. DeLee says do what we will, more or less lacerations will occur. Williamson, in a recent article, says that episiotomy will often help in forceps mid-pelvis operations, before traction is made, as it gives the operator a better direction of pull. He does not do it as a routine. His indications for epistiotomy were probably all right, provided he did not have time to iron out the structures. In midforceps cases I cannot see the rationale of simply doing an episiotomy for the sake of more handle room, when a well ironed out and dilated vaginal outlet will do more than an episiotomy will ever do. We must all agree with Dr. DeLee, when he says that watchful expectancy and natural delivery will give the best results in the conditions in which the vast majority of births occur. That the indiscriminate use of forceps, of pituitary solution and of forced delivery will do immeasurable harm.

Pfleiderer claims lessened perineal tears by causing the patient to lie on her right side, he standing in front of her placing the palm of the right hand on the foetal head, so that the finger tips rest on the perineal border. As the foetal head advances he pushes the perineal margin ahead of his fingers and over the head of the child, thereby causing the distance from the anal opening to the edge of the perineum to be no greater than it was before the head began to protrude through the vulva. This is the principle as outlined by the position of the left hand in the dilatation and support method just presented.

Since writing this article, a very plausible paper has been written by Aschner, of Germany, which has a similarity to the present paper. I shall quote the article as abstracted in the Jour. A. M. A., Mch. 13th, 1926, as follows:

Aschner declares that we have been mistakenly attributing to contracted pelvis disturbances which in reality are due to the soft parts, especially delayed and defective dilatation. The efforts for dilatation are what exhausts the woman and every means should be applied to facilitate the dilatation. The most effectual and least harmful method to accomplish this, he says, is to dilate the external os with the fingers or entire hand when the cervix is unfolded. By applying this measure at the proper time, many complications and interventions can be avoided, as he has established by analysis of 364 deliveries treated on this principle. Combined with a little pituitary extract and a few whiffs of ether, the childbirth approximates the ideal of painless delivery. An abnormally protracted and painful childbirth is not a natural process, and hence requires more than to be left to nature alone. The great frequency of constitutional anomalies and what he calls domestication injuries explain the relative frequency of these soft parts disturbances and abnormal labor conditions even without appreciable anatomic anomalies. Since he has been applying this principle to all primiparas, and in cases with premature rupture of the membranes or abnormal labor pains, he has had no instances of puerperal infection, laceration of the cervix or other injury to mother or child.

1010 Pere Marquette Bld'g.

DISCUSSION.

Dr. W. L. Bendel (Monroe): I think we are all interested in the conservation of the perineum during labor and I want to state that I agree heartily with the principles that have been laid down by Dr. Carter in his paper. I think that as soon as the bulging of the perineum manifests itself the obstetrician should place himself in a position effectively to check the progress of the head when found necessary.

Every obstetrician has tears; those that say they haven't tears overlook them or don't know them. The tears will vary from slight tears to complete tears, and I think the frequent occurrence of complete tears is either ignorance or negligence. The levator ani muscle is practically always injured even though the vaginal mucous

membrane doesn't show evidence of the tearing because of its elasticity. The causes of the tears are usually four-fold: the disproportion between the head and the vulva passages, too rapid expulsion, abnormalities in the mechanism of labor, and the narrow pubic arch.

Regardless of the amount of tear or the degree of tear, I believe this should always be repaired immediately unless there is some severe contra-indication. I believe we can lessen the possibility of the tear and protect the vagina and the perineum by two main methods. That is, by slow delivery, developing to the ultimate the elasticity of the perineal parts, and delivering the head of the child in forced flexion, whereby you bring the suboccipitobrachmatic and suboccipitofrontal diameters of the head to the perineum passage, which are from one and one-half to three centimeters less than the occiput.

As far as the episiotomies are concerned, I never have been in accord with them. It always has impressed me as being just a little bit on the side of brutal procedure. Of course, I know there are indications of it. We realize there are indications for episiotomies but in some localities it is too frequently resorted to and I wish to voice Dr. Carter's ideas on that subject.

Dr. James F. Cooper (New York): I enjoyed this paper very much and I feel that I would like to say just a word or two in regard to the attempts to protect the perineum in the normal cases. Episiotomy as dealt with in our textbooks and indications given vary quite considerably with the different authorities. I was connected with the obstetrical department of Boston University Medical College for some time and in that capacity went out "on the district" so-called with the students who were getting off their required cases before graduation. In that capacity I saw a great many cases. The word that I wish to leave with you is to avoid as much as possible all interference. When examinations are necessary, it is much preferable that instead of making vaginal examinations that examinations be made per rectum and those as few as possible; never vaginal unless absolutely necessary and then as few as possible.

According to statistics we have in the United States over 20,000 deaths occurring from childbirth every year. Now that mortality is exceeded only by one other cause of death in women in the child-bearing period, that is, from fifteen to forty-five, and it is a terrific mortality. It has been roughly estimated that about one-half of these deaths are due to infections. Here, of course, is a great opportunity for improvement in the technic of our obstetrics. When we realize that so many infections

occur, we should be very, very careful to avoid all possibilities of it. It is impossible, of course, to sterilize the vaginal tract and while we can sterilize ourselves with rubber gloves the more manipulations we make the greater is going to be the possibility of infection, and that is just the point that I want to make.

We tried in our district work all sorts of things, supporting the perineum with gauze, having our hands there putting hot compresses on, and dilation, and all the rest of it, but we found after a long time that everything we could do seemed to produce very little effect and we came to the conclusion that the better thing to do in all these cases is keep hands off and stand by and help the woman in all sorts of emergencies and just lessen the possibilities of infection.

Dr. J. A. Danna (New Orleans): I am not supposed to be an obstetrician but I still do some obstetrics. I believe with the last speaker that one should not unnecessarily make vaginal examinations, but I think that Dr. Carter's practice is a very different kind of practice from the practice that Dr. Cooper speaks of. I think Dr. Cooper is right in impressing the medical student with the necessity of doing everything he can to keep from infecting his patient; but I believe the chances of producing an infection are greater after you have once put your fingers in the rectum, with or without gloves, than they are if you are careful to keep your hands clean and put them in the vagina occasionally. I never have been able to reconcile myself to a routine of rectal examinations. I very seldom make a rectal examination in an obstetrical case.

I want to compliment Dr. Carter on his attitude on this subject generally and to say that I am heartily with him in everything he has said.

Dr. E. M. Levy (Alexandria): Unfortunately I failed to hear the paper but having had several hundred lacerations I would like to say that the thing I have always found in lacerating my perineums was not the head but the shoulders. I think we make a big mistake and it has been my custom for a long time to give chloroform just as the head was coming out of the perineum, and for years just as soon as the head got out I quit and the shoulders came out with a bump and I had a laceration. I believe if we would be as careful with our shoulders as we are with our heads we would have less of it.

Dr. Thos. B. Sellers (New Orleans): I agree with Dr. Cooper that we should make more rectal examinations and fewer vaginal, especially in homes. It is a known fact that everytime a vaginal examination is made, there is just one more chance for infection.

We teach students that if there is a possibility of a cesarian section, preferably make a rectal examination and only make a vaginal examination under most aseptic precautions.

I do an episiotomy on about 80% of my primiparas. We must not lose sight of the fact that many times the levator ani muscle is injured without a tear of the vaginal mucosa. This explains so many of our relax vaginal outlets with apparently normal vaginal mucosa.

I want to congratulate Dr. Carter on this excellent and timely paper. It should appeal not only to the obstetricians, but also to every practicing physician.

Dr. D. I. Hirsch (Monroe): I would like to discuss this paper but I want to take exception to the statement of Dr. Sellers. I think if a man is just halfway careful in a house he is less liable by a larger majority to have an infection in a home in obstetrical cases than in a hospital. No matter how careful you are in a hospital you have a place where the infection is concentrated no matter how you clean it or take care of it, and if you are just the least bit careful in a home the liability for infection in obstetrical cases is much less than it is in the hospital.

Dr. C. H. Mosely (Monroe): I beg pardon for coming so often on this program and I know that I am liable to pull the house down on myself, but here it goes. I believe that the person that is clean can make a vaginal examination with some safety. Somebody said this morning that you can make statistics prove anything. They proved, in Johns Hopkins', just a little while ago that preparation availed but little, that people had less infection by not shaving the vulva.

People who have noticed a normal delivery have seen that the head will come up pressed on the bladder and you get a discharge of urine. This urine goes over the head, washes the vulva and vaginal tract and goes back up with the head. Reasoning from cause to effect, I cannot see any more difference in that head making that excursion coming down over the perineum and then being pushed back as we are taught to push it, and of putting an aseptic hand in that vagina that has been thoroughly immersed in hot bichlorid plus a certain amount of sodium bicarbonate and then subjecting that woman to a measure of that vaginal tract. I cannot see the difference. There may be a difference but there is no reason for it.

Dr. James E. Walsworth (Monroe): I certainly appreciated the paper that the doctor read. I heard most of it and personally I can agree with practically everything that was said, but in the discussion a point was brought up about the in-

fections, puerperal infections. It has been my experience, although I do not do very much obstetrics, that if you are careful to go into the history of that case from the time of her menstrual record you will find in the great majority of those instances that that patient has suffered some infection previously and that gives you the puerperal septicemia and aseptic complications. If you will go into your histories, nine times out of ten you will find a record of some trouble that has become latent and it is not the condition that happens at the time of the delivery.

It seems to me that there is an explanation for the greatest number of ovarian infections that follow the puerperal period and I don't believe that there is very much difference with the average physician in his care during the delivery hours because we all have the same rules and regulations, we are all conscientious about handling those cases and take care of them the best we can. I feel that in the home or the hospital if you will find your record of that case and follow it up you will get an explanation of those infections that come about.

Dr. Carter (closing): I thank you for this discussion you have given me and I am sorry I could not have finished my paper. There was something there that would have answered some of the discussers.

In regard to the rectal examination against vaginal examination, I have considered that for a long time. I have done both and I find that my morbidities are not any greater in the ironing out process of the vaginal examination than with the rectal examination. It is mainly the asepsis in your examination that governs the case.

You take the appalling death rate of the woman in childbirth in the United States being around 20,000. We forget for a moment the large percentage of those cases that are handled by midwives, midwives that are not trained in their work. For instance, in Chicago where there are quite a good many midwives (I forget the percentage of the cases) you will find that the cases of morbidity, the majority of them, are the cases that have come in from other hands, but if a doctor will go in and handle that case from the beginning his results will be just the same as if he made a rectal examination. I think it is better for your vaginal examination because you can make out a better position of your head and you can certainly iron out the parts.

It is the dilatation of these soft parts that draws on the strength of the patient and if we can make the secondary stage short by this procedure we prevent the strain on the patient. Where a case comes up for cesarean section, of course, if it is

an infected case we have to take our chances and do the extraperitoneal. If you have a case that comes to you, examine her at her eighth month, make a vaginal examination. If you know then you are going to do a cesarean section, hands off and make no other examination. When she goes into labor do your cesarean or do it before she goes into labor.

The main thing I tried to bring out in the paper is the matter of slow dilatation, the support of the levator ani muscle and ether anesthesia. The perineum is never touched; by pressing directly on the perineum you aggravate the condition and produce tears. If the head pushes down without ironing out it is bound to cause edema especially if it is primipara.

THE NORMAL AND PATHOLOGICAL DEVELOPMENT OF THE SINUSES.*

JOHN J. SHEA, M. D.,
MEMPHIS, TENN.

The paranasal sinuses have a normal cycle of development which when followed results in an adult type of sinus capable of handling the ordinary infections. If the sinuses suffer a severe single infection or recurrent mild infections during their formative period this development can be either arrested or retarded. At times it is possible to speculate as to what age this interference has occurred by studying a series of roentgenograms of the cranium. In the past we have been taught that any surgical interference would arrest the development of the sinuses. This I believe to be an error, for I have many roentgenograms to show that surgically improving the ventilation and drainage of the sinuses after disease had arrested the growth, has aroused the sinuses to new growth and in some instances this growth has been at an increased rate over the normal. In fact I use this one establishment of growth as a criterion as to whether we have successfully arrested our infection, for until an arrested

*Read before the Mississippi State Medical Society, Jackson, May 12-14, 1926.

sinus can be seen to enlarge it cannot be considered cured.

EMBRYOLOGIC CONSIDERATIONS.

Davis, in 1924, presented his studies on the embryology as follows:

During the third week of embryonal life there is evidence of beginning development of the nasal areas as shown by increasing thickness of the ectoderm on the antero-lateral portions of the forebrain. At the end of the third week, or during the fourth week, the nasal area appears as a depression which is brought about by the increased thickness of the surrounding mesenchyme. * * * The primitive nasal capsule develops as a part of the primordial cranium. * * * In the second month the nasal capsule becomes clearly differentiated from other mesoderm and shows beginning cartilaginous development. * * * Schaeffer records that the concha nasalis inferior appears in embryos of thirty-eight to forty days as a bulging of the inferior portion of the lateral nasal wall immediately superior to the portion from which the palatal processes develop. From the fortieth to the forty-third day the ethmoidal fold appears superior and slightly dorsal to the fold representing the concha inferior and from this ethmoidal fold the ethmoidal conchae are developed as the nasal cavity increases in its supero-inferior diameter. * * * In the sixty-day embryo * * * the lateral nasal wall shows two distinct folds, the lower being the concha nasalis inferior and the superior one the ethmoidal fold, which is beginning to assume the form of the concha nasalis media. In its postero-superior portion the ethmoid fold shows a further differentiation, indicating the early formation of the concha superior. The conchae, in their earlier stages of development do not contain cartilage, but are folds of mesenchyme covered by nasal epithelium. * * * From the posterior portion of the agi nasi there is seen in the sixty-five-day embryo a ridge of mesenchyme extending in a posterior-inferior direction along the supe-

rior curved border of the concha inferior. This ridge, which has its free edge directed postero-superiorly and slightly medially, is the early *processus uncinatus*, in which there soon appears a thickening or condensation of mesoderm in its central portion, followed by transformation into cartilage. * * * Just inferior to the attachment of the middle portion of the concha media * * * the early *bulla ethmoidalis* develops from the lateral ethmoidal mass as one of its secondary folds. * * * Between the free antero-inferior surface of the bulla and the postero-superior surface of the *processus uncinatus* is a narrow interval, the primitive hiatus semilunaris, which is the opening or means of communication between the meatus medius and the *infundibulum ethmoidale*, the infundibulum developing as the gutter-like channel lateral to the *processus uncinatus*. * * * The number of ethmoidal conchae into which the lateral ethmoidal mass becomes differentiated varies from three to five. The majority of fetuses examined had three ethmoidal conchae—four were not uncommonly present; but only on one side of one specimen were five demonstrable. * * * All ethmoidal cells, the frontal and maxillary sinuses, have their origin from preformed grooves or furrows between the folds which develop on the lateral nasal wall. The meatus nasi medius soon becomes the most complex portion of the nasal cavity, and developing from it and extending into the surrounding areas are extensive processes of pneumatization which are termed the *cellulae ethmoidales anterior*, the *sinus maxillaris*, and the *sinus frontalis*.

THE CELLULAE ETHMOIDALES.

* * * All ethmoidal cells having their ostia inferior to the attachment of the concha nasalis media belong to the anterior group, while those having their ostia superior to the concha media belong to the posterior group. This classification holds good regardless of how far the more distant portions of any irregularly developed cells of either group may invade the region or-

dinarily occupied by cells of the other group. * * * Seydel observed that an ethmoid cell, having its origin from any given meatus, did not communicate with any cell having its origin from any other meatus. Zuckerkandl took exception to this statement, but certainly every specimen in this series supports Seydel's view.

DEVELOPMENT OF THE CELLULAE ETHMOIDALES.

* * * The cellulae ethmoidales develop as invaginations of the nasal mucosa, extending into the lateral masses of the ethmoid from the primitive grooves or furrows in the lateral nasal wall. These invaginations, representing the primitive ethmoidal cells, appear in the fourth fetal month as cylindric extensions of the mucosa, in which the epithelial surfaces are in contact. As the diameters of the invaginations increase there gradually develop lumina within the cylindric processes, which, by the sixth fetal month, usually show a distinct cell formation.

CELLULAE ETHMOIDALES POSTERIOR.

"Primitive cells of the anterior ethmoidal group develop earlier and more rapidly than those belonging to the posterior group. In the anterior group the bulla cells are usually the first to be distinctly demonstrable. * * * The manner in which the processus uncinatus is attached to the aginasi, its relations to the bulla ethmoidalis, and the character of the attachments of the anterior portion of the concha media, exert the greatest influence upon the proportion between the number and size of the cellulae frontales and the cellulae infundibularis. If the processus uncinatus is attached to the postero-lateral portion of the aginasi and the antero-superior attachment of the concha media is high up in the lateral nasal wall, then the cellulae frontales are apt to be well developed. However, if the anterior attachment of the processus uncinatus is more media in position and the antero-superior attachment of the concha media is situated lower on the lateral nasal wall, then the recess is small, the cellulae

frontales are apt to be deficient in development, and there is usually a corresponding increase in both the number and the extent of the development of the cellulae infundibulares. * * *

CELLULAE ETHMOIDALES ANTERIOR.

* * * The most posterior ethmoidal cell frequently develops dorsally until a portion of it lies superior to the ventral portion of the sinus sphenoidalis, but in no case was there a communication found between a posterior ethmoidal cell and the sphenoidal sinus. * * *

THE SINUS MAXILLARIS.

"The sinus maxillaris is the most constant of the nasal accessory sinuses and is seldom absent. Reschreiter mentions reports of four cases in which a sinus maxillaris was absent. * * * In embryos eighty-five days old there is a lateral outpouching of mucosa, demonstrable in the infero-lateral portion of the walls of the infundibulum ethmoidale, slightly anterior to its midpoint antero-posteriorly. This is the primitive sinus maxillaris, which gradually develops as an oblong recess, extending first into the lateral nasal capsule, after the resorption of which it continues its advance and development into the maxilla. The point of primary lateral pouching persists as the ostium maxillare. * * * As the body of the maxilla increases in size there is a corresponding increase in the extent of the pneumatization. * * *

THE SINUS FRONTALES.

* * * A sinus frontalis may develop as an antero-superior extension of a cell originating from either of these two recesses, as a direct extension of the infundibulum ethmoidale, as a direct extension of a recessus conchalisis in which no frontal cells have developed, or, in rare instances, as an extension from a cell originating in the suprabullar furrow. * * * From whichever of these sources a frontal sinus may have its origin, the process of pneumatization gradually extends from the portion of the anterior ethmoidal area toward and

into the inferior portion of the frontal bone. The sinus, surrounded as it is by a thin lamina of compact bone, then advances towards the ascending portion of the bone is resorbed. This rate of resorption, frontal bone, advancing as the cancellus in an average case, is such that the sinus begins its ascent into the vertical portion of the bone during the second year, and in the third year is 3.8 millimeters above the level of the nasion. * * *

THE SINUS SPHENOIDALIS.

"The sinus sphenoidalis differs in its early development from the other accessory sinuses in that the primitive sinus does not have its origin from one of the furrows situated on the lateral nasal wall, but develops as an invagination extending from the postero-superior portion of the recessus sphenoidalis. * * * The site of this primitive invagination persists as the ostium sphenoidale. Embryos of eighty-five to one hundred days show the development into the nasal capsule more distinctly, the advancement of the pouching process being most frequent in a postero-inferior and slightly lateral direction. * * *"

The ethmoidal cells are present at birth. They develop until puberty is well established and reflect in their growth the influences of the infections they have suffered. The sphenoid sinus is generally a distinct cell at birth, but has no clinical significance. From the age of three the sphenoid sinus grows rapidly so that at the age of ten it reaches its adult size. The frontal sinus is formed by the migration of an anterior-inferior ethmoid cell into the frontal bone and as soon as the cell enters the frontal bone it becomes the frontal sinus. At birth and during the early years of life the ethmoid cells are sharply divided into an anterior group and a posterior group. The sphenoid labyrinth will assume the size and shape that its component bones will allow and the presence or shape of the frontal sinus is governed by the migration of the anterior ethmoid cells. The growth

of the sphenoid labyrinth should be proportionately pneumatization and capsulation. This growth is dependent upon the absence of infection, for the sinuses reveal in their growth and development the infections they have suffered. If the infection at any time during the developmental period of the sinuses is severe or persistently mild it will retard or stop the natural growth and development with the production of a type of sinus in the adult known as the persistent infantile sphenoid labyrinth. In the persistent infantile sphenoid labyrinth the pneumatization is subnormal and the capsule hypertrophied, as shown by the roentgenogram. The characteristic persistent infantile sphenoid labyrinth in the adult has few anterior cells and these are small with hard, thick walls which do not migrate sufficiently to form a frontal sinus, or if they do form a frontal sinus, it is only rudimentary. The posterior cells are likewise few with hard, thick walls, but are larger than the average posterior cell, though their aggregate volume is less. The sphenoid sinus is small and its walls are thick and firm. The membrane lining these cells is thin and not capable of normal secretory powers. Atypically placed cells are very common. The persistent infantile sinuses are prone to atrophic diseases and osteitis, while the normal sinuses are capable of recovering from severe purulent inflammations. In the latter group chronic inflammation may produce hypertrophic changes and polyps. The cystic type of ethmoids can only occur after the sinuses have been normally developed for we do not meet any cystic changes in the persistent infantile type. In fact the cystic changes are really pathological degenerations and not developmental changes. When infections have arrested the development of the sinuses this is not always permanent for by re-establishing the normal ventilation and drainage of the undeveloped sinuses through surgery they will begin to grow again and in many instances regain the lost develop-

ment in a comparatively short time. In fact it has been my experience that the sinuses must show new growth before the pathology can be considered corrected. The teeth are influenced by the arrest of the development of the antra but we have not had any evidence of injury from surgical interference upon the further development of the teeth.

I have taken a large number of roentgenograms of sinuses and compiled them into one picture. The A's represent the shadow of the sinus at birth or during the first year. As will be seen the ethmoidal cell has not migrated into the frontal sinus and the floor of the antrum is above the level of the floor of the nares. The sinus at puberty is represented by A and B and here the frontal is seen to be fairly well developed and the floor of the antrum on a level with the floor of the nares. The extreme adult development is represented, A, B and C, and the floor of the antrum is now below the level of the floor of the nares. With this sketch in mind any roentgenogram of the sinuses can be compared to a normal roentgenogram of the age of the patient.

If the infection is arrested, and this is best done by the removal of the tonsils and adenoids and, if necessary, the drainage of the antrum, the sinuses will begin to grow. In fact, unless the development of the sinuses is accomplished to within the range of the normal age of the patient, the infection cannot be considered arrested.

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DISCUSSION.

Dr. E. L. Posey: I want to say I enjoyed Dr. Shea's paper very much; it shows a great deal of original thought and work, and I think we are very fortunate to have Dr. Shea come and read his paper. I do not think there is anything I can add to what has already been said.

Dr. D. C. Montgomery: Doctor Shea has done some very wonderful work along this line. It has

served to clear up and make easier for the rest of us in making the diagnosis, particularly chronic ethmoid infections. He began about seven years ago, and since then I have been reading with a great deal of interest his different contributions along this line, and by the aid of his papers and original work the subject has been made considerably easier for me, and a very interesting one. I want to thank him again for this very excellent contribution.

Dr. E. F. Howard: I wonder why it is the chairman put a chap like me to discuss any paper by Doctor Shea. Having heard the paper, I am convinced he has been guilty of an act of super-erogation, if you know what that means—it is a nice long word. When you recall the fact that Doctor Shea is the man to whom I submit all of my sinus problems, whenever it is at all possible for me to do so, I am quite sure you will agree with me that the best discussion I can give you is to just use the three words you ordinarily hear every day from the telephone girl—"Excuse me, please."

Dr. R. C. Lynch: We are indeed indebted to Doctor Shea for the excellent paper presented to us which in reality represents the type of work he is doing. Dr. Dean of Iowa is the pioneer in this field of work and Doctor Shea runs him a close second. His investigations have stimulated my own work in this particular field so that I now unconsciously find myself searching for sinus manifestations in these youngsters. Following Doctor Shea's methods we have treated a number of children suffering from sinus conditions, obtaining happy results in all cases.

Doctor Mitchell: I would not have the temerity to appear before this body but I feel I am as much interested as you are. These cases do not come to you, they come to the pediatrician and the general practitioner. They do not come with rhinological symptoms, they come for other conditions. I will read you a tabulation of these cases we made a few years ago in our series:

For return of the adenoid symptoms.....	62
Chorea	10
Failure to gain, or malnutrition, irregular temperature of unknown origin	11
Anemias	5
Pyelitis	5
Asthma	18
Headache	2

Since that time we have had four cases that showed the typical headache.

The case which Doctor Shea has just shown exemplifying the development of the sinuses was a

typical asthma. As the sinuses began to improve and the frontal sinuses to develop the asthma disappeared. The child has had no asthma for a period of something over two years.

Another point we noticed in our series particularly was the number of cases in which the tonsils had been removed previously. The cases were tabulated as follows:

Under six months—after the removal of the tonsils....	3
6 months to 1 year— “ “ “ “ “ “	3
1 year to 2 years— “ “ “ “ “ “	14
2 years to 3 years— “ “ “ “ “ “	30
4 years to 5 years— “ “ “ “ “ “	20
5 years to 6 years— “ “ “ “ “ “	10
6 years to 7 years— “ “ “ “ “ “	4
7 years to 8 years— “ “ “ “ “ “	1
8 years to 9 years— “ “ “ “ “ “	2
9 years to 10 years— “ “ “ “ “ “	2

Also in our series at that time we had twenty-seven cases where the tonsils had not been previously removed. This tabulation shows that the majority of our cases of sinus infection occurred where the tonsils had been removed six months to eight years previously.

At this time I wish to call your attention particularly to the frequency with which sinus infection produced typical symptoms of the return of the adenoid growth.

In making our diagnosis of diseased paranasal sinuses we have noted especially the following points clinically from the standpoint of the general symptomatology. This is, these children are nearly all under weight; they are all highly nervous; the rhinological symptoms are more or less absent. The roentgenogram is now used as a routine in all suspected cases. A salient point in the history is that these children clear up in the summer time. Also when they are taken to a different climate they will show marked improvement, especially if they are sent to the seashore or the mountains they clear up immediately. I

remember one boy who had a typical sinus infection and was sent to Gulfport and immediately cleared up. He remained there for four weeks and was well all the time while there, but after his return home the infection returned with all its intensity. I think from a clinical standpoint, there is no condition on which we must depend more upon your co-operation. I think a rhinological examination is essential and should be made in every case of doubt.

In a recent papers that I read before the Southern Medical Association on this subject before the Pediatric Section the universal comment was "How do you get the co-operation of your rhinol-

ogist?" We cannot get this co-operation. We send the case to the rhinologist and he says I do not believe much in this stuff about paranasal sinusitis in children.

Further, unfortunately, the doctrine is being preached, not by rhinologists altogether but by others in the profession, that if you once operate on a child's sinuses you must continue to operate throughout life, that there is no permanent cure. I think Doctor Shea's series of plates and the work he has done somewhat refutes this theory. That instead of tearing down the sinuses we are building up the sinuses; that the sinuses that were deficient in growth are now growing. Our work also shows to us conclusively that as the focal infection is cleared the clinical symptoms, whether asthma, nephritis, pyelitis or some other condition, likewise improve.

This discussion of mine today is a plea to the nose and throat men for co-operation. If we can work together we will accomplish results. If we work at variance we will accomplish nothing. It is up to the pediatrician to recognize that the paranasal sinuses constitute a frequent focus of infection, that they produce many other conditions, that the local findings are often nil, that a rhinological examination including satisfactory roentograms is necessary in all cases of doubt. It is also up to the pediatrician to work in harmony with the rhinologist by keeping the child's physical condition in as good shape as possible. It is up to the rhinologist to remove this focus of infection, not merely to state that he does not believe it.

Paranasal sinus infection covers a big field and if we work in harmony we can accomplish good results.

FRACTURE FOLLOWED BY SARCOMA, OR SARCOMA FOLLOWED BY FRACTURE?*

HERMANN B. GESSNER, M. D.,
NEW ORLEANS.

The importance of cancer among civilized races is readily acknowledged. Allowing for better statistical information, for improved methods of diagnosis (including autopsies), for greater longevity as explanation of the greater incidence of malignant disease, authorities like Frederick Hoff-

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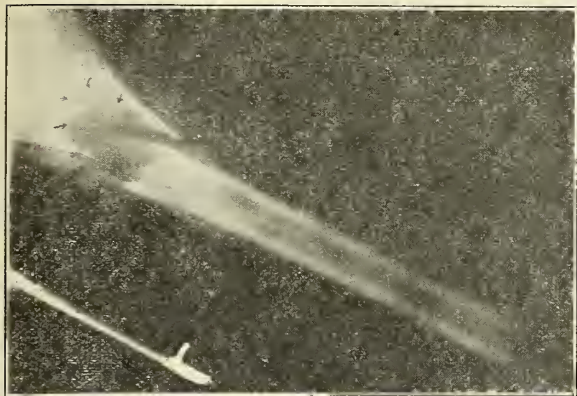


Fig. 1—Case I. June 4.

man express the opinion that cancer is on the increase. He states that in New York State the cancer death rate has increased from 61 per 100,000 in 1898 to 97 in 1921, while in the United States it increased from 63 per 100,000 in 1900 to 86 in 1921; he gives the mortality in San Francisco as exceeding 160 per 100,000. Nearly all the other white countries show a steady increase in the cancer mortality rate.

You are familiar with the theories as to the nature of cancer and the various factors which appear to bear on the etiology of the disease. In this paper it is proposed to consider only one etiologic factor, that of trauma. Psychologists and philosophers assert that there is some basis of truth to all popular beliefs. If that is true, we must consider with some degree of respect the lay impression that trauma causes cancer, for it seems generally held and is frequently brought to our attention.

While repeated trauma and continued irritation have long been accepted as contributing to the development of cancer, in association with other factors, there has been in the past a tendency to deny single trauma as an etiologic factor. The opinion was held that, *e. g.*, a woman struck on the breast and developing cancer had already a small nodule which was stirred to rapid growth by the reactionary hyperemia that followed.

Magruder (Claims Arising from Results of Personal Injury, The Spectator Co., 1910) makes the following quotations:

Bland Sutton: "I have not deemed it necessary to discuss injury as a cause of tumor."

Lowenthal: "That the trauma itself does not furnish the real cause for the formation of a tumor is apparent from the fact that thousands of traumatisms are constantly occurring and that few tumors develop."

Bloodgood: "Trauma has not been an important etiologic factor in the history of either benign or malignant tumors of the breast."

McCallum (Textbook of Pathology, '24, page 109) makes this statement: "Injuries and Irritations: Single severe injuries, such as blows or fractures, have frequently been followed by the development of a sarcomatous tumor, though rarely by a carcinoma. Thousands of such injuries have no such result, however, and it may well be questioned whether the connection is not an accidental one."



Fig. 2—Case I. July 18.

The current trend of thought has been in the direction of accepting single trauma as determining the development of cancer. A steadfast proponent of this view has been Dr. W. B. Coley of New York, to whom we are indebted for his contributions to the study of the etiology and treatment of the disease.



Fig. 3—Case I. Sept. 15.

Da Costa (Modern Surgery, 1919, page 399) says: "Injury and inflammation may undoubtedly prove exciting causes. A blow is not infrequently followed by sarcoma."

Ewing (Neoplastic Diseases, 1922, page 108): "Trauma seems to be the sole tangible factor in originating many tumors of bone, etc."

(Page 109): "By trauma is here understood a single or repeated more or less contusing, crushing or lacerating mechanical injury."

(Page 111): "The character of the injury followed by tumor growth varies widely. Sarcoma commonly develops after a single blow. Fractures, lacerations of deep tissue, contusions and concussions, all of which are apt to cause hemorrhage, represent the usual type of injury preceding sarcoma and benign mesoblastic tumors. The common superfluous callus about fractures reveals the great proliferative capacity of periosteum, and Benecke believes that the regenerative process in periosteum may run directly into sarcoma."

Your attention is called to the fact that Ewing includes fractures among the single-trauma causes of sarcoma. He gives the estimates of traumatic origin of tumors as varying from 2.5% (Kempff) to 44.7% (Lowenthal), stating that of 6780 undifferentiated tumors 494 (7%) were regarded as of traumatic origin, while of 2641 carcinomas 107 (5%) were classed as trau-

matic, and of 938 sarcomas 176 (19%). He mentions 55 melanomas reported by Werner Rowe of which 19 gave a history of injury to a mole, and 1086 cases of glioma of the brain of which 8.8% were preceded by rather definite traumatic history.

DaCosta (Modern Surgery, 1919, page 399) says: "Injury and inflammation may undoubtedly prove exciting causes. A blow is not infrequently followed by sarcoma."

On the other hand, Boyd (Surg. Path., 1925, page 160) expresses himself as follows: "Occasionally a sudden trauma may be followed by the development of a malignant growth. Sarcoma of bone may develop at the site of a contusion, cerebral tumor may follow a head injury. The injury, however, must be slight—a contusion and not a fracture. This holds true also in the case of tuberculosis and hematogenous osteomyelitis. Apparently the violent reaction which occurs at the site of a fracture results in a local immunization by cells and body fluids which is sufficient to prevent the operation of any extraneous factor."



Fig. 4—Case II. March 6.

Eisendrath and Strauss deny the relationship between trauma and fracture. (Keen's Surgery, Vol. VII, page 417): "Development of Tumors at Seat of Fractures: We can find no authentic case report in which there was a direct relation between the fracture and the neoplasm. In every case

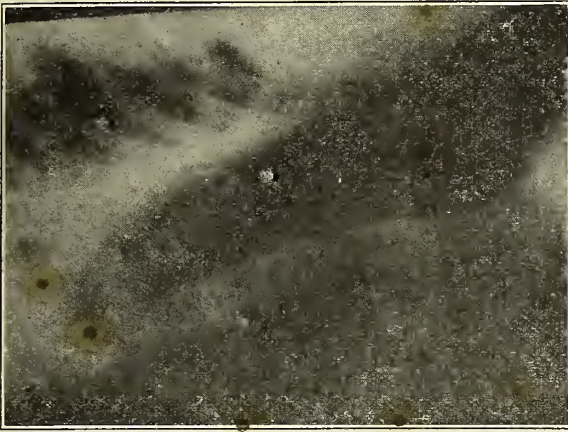


Fig. 5—Case II. April 6.

thus far published the fracture either was a pathologic one, *i. e.*, a tumor was the cause of the solution in continuity, or there was only a history of injury and the tumor found at such a short interval afterwards as to render it improbable that the injury has any causal relation."

It will be seen from these quotations that while single trauma as a cause of cancer has gained considerable recognition, its influence when taking the form of a fracture is doubted by some. Coley, who recognizes trauma as a determining cause of cancer, includes cases of fracture among others.

Recently there have come under my observation two cases in which apparently fracture was followed by sarcoma.

Case 1. J. J. L., negro, male, age 28 years, was admitted to Charity Hospital June 2nd, '25. Eight days before admission, while trying to mount a horse, his foot slipped and he fell, landing on his left knee. He was carried home and a splint applied. On admission to Charity Hospital he was given the Australian treatment of traction and suspension. The X-ray report at this time was: June 2 (C. 46288 B.) "comminuted fracture lower 1/3 left femur; position good" (fig. 1). June 4th (C. 46356 B.) the same report was made. July 14th he complained of pain in the limb. July 18th X-ray report (C. 48188 B.) was "A. P. and lateral views of the thigh show old fracture of the diseased bone. Malignant tumor, probably sarcoma, at lower 1/3 femur" (fig. 2).

Coley's toxins were now given under the direction of Dr. J. A. Danna, the doses rising from 1/2 minims to thirty minims.

Sept. 15th X-ray report (C. 51080 B.) was: "Greater extension of diseased area in lower 1/3 femur, with marked increase in secondary involvement of soft parts of thigh" (fig. 3).

About Nov. 1st he was transferred to my ward. As his sarcoma was now a huge mass, confining him to bed, amputation as a palliative measure was considered. An X-ray picture of his chest showed no evidence of metastasis to the lungs.

Nov. 17th, amputation at the hip was done under a combination of spinal anesthesia (apothesine) and ethylene. The report of the Pathologic Lab. was "Giant Cell Sarcoma." He was discharged Jan. 18th, '26, much improved, having gained weight.

Case 2. I. C., white, male, 18 years old. Admitted to Charity Hospital April 6th, '25. About a month before admission he was struck on the arm by a street car; came to the accident room of Charity Hospital and had a triangular splint applied.

X-ray report, March 6 (42355 C.) was: "Oblique fracture mid. 1/3 left humerus; position good" (fig 4).

Following the first aid treatment he attended the out-patient clinic regularly. A few days before admission the arm began to swell. X-ray report, April 6th (43743 B.): "Pathologic fracture middle 1/3 humerus, which we believe to be myeloma" (Fig. 5). Examination of the left arm at this time showed it swollen and tender; there seemed to be a growth at the site of fracture, with apparent non-union of fragments. The urine showed no Bence-Jones reaction.

April 21st, 15 days after admission, 6 weeks after trauma, X-ray report (44389 B.) showed "complete absence of the middle 3/4 of the shaft



Fig. 6—Case II. April 21.

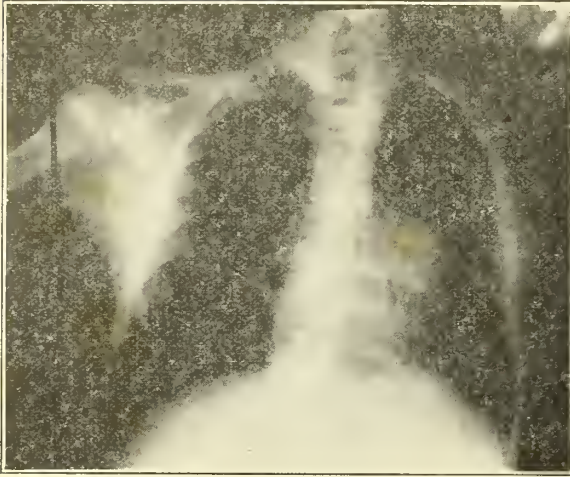


Fig. 7—Case II. July 5.

of the humerus; no periosteal reaction, no new bone formation" (Fig. 6).

April 25th, disarticulation at the shoulder was done by Dr. Muir Bradburn. The report of the pathologist was "Osteo-Sarcoma."

July 5th, the X-ray report of his chest (47965 A.) showed sarcoma metastasis involving both lungs (Fig. 7). Death came shortly after.

COMMENT.

It will be noted that in both cases the original report from the X-ray department referred to the fracture and the position of the fragments, without noting any changes in the bone itself. In Case 1 it was 6 weeks after admission, 7 weeks after trauma, when an X-ray picture was reported for the first time as showing definitely disease of a neoplastic form. In Case 2 the neoplastic disease was plainly seen in the X-ray taken one month after injury. At my request Dr. Amedee Granger, director of the X-ray department of Charity Hospital, has gone over the pictures with a view to determining any evidence of disease in the primary exposures. He is of the opinion that in both cases the first pictures show osteoporosis with thinning of the cortex, sufficiently marked to justify the opinion that disease existed at this time. While no evident tumor appears in these pictures, the findings are consistent with what we might expect in early neoplastic disease.

If it were not for Dr. Granger's opinion, I should be inclined to consider Case 1, the femur fracture, as one of sarcoma following fracture, on account of the number of weeks (seven) that elapsed between the accident and the taking of a picture that showed new growth. In Case 2 the development of an unmistakable tumor in 4 weeks justifies the opinion even from a clinical view point, that the fracture was a pathological one.

Believing as I do that the X-ray evidence is to be given paramount weight in such conditions, I conclude that in both these cases the fractures were pathologic, caused by early neoplastic disease and not acting as the cause of the disease. These are instances of sarcoma followed by fracture, not fracture followed by sarcoma.

THE TODD TUCKER IN MUSCLE WORK.*

E. L. POSEY, M. D.,
JACKSON, MISS.

While an interne in Wills Eye Hospital I asked the late Dr. Samuel Risley what he considered the most difficult task an ophthalmologist has, and without the least hesitation he replied that after almost fifty years of experience he considered muscle work the most difficult. The longer I practice the more I am convinced that my great teacher was correct in his statement.

Many operations for squint have been done. While an interne I had an opportunity to see all these operations performed and to see the end results, and the one that gave the greatest number of successes is the one first done by the late Dr. Todd, and this is the one I do almost exclusively in my work. This operation has advantages and disadvantages but I think the good features out-weigh the bad ones.

*Read before the Mississippi State Medical Association, Jackson, May 12-14, 1926.

When the Todd tucking is done there is no cutting of the muscle and should the sutures refuse to hold the eye is in no worse condition than before the operation. With the tucker, one can usually judge accurately the amount of tucking necessary to get the eye straight.

In a few words I will describe the technique I follow in doing this operation. A longitudinal incision is made in the conjunctiva and capsule over the muscle; beginning a short distance from the limbus, the muscle is exposed and freed. A small curette is used to irritate the under surface of the muscle (this seems to hasten union). The tucker is next introduced and the amount of tucking to straighten the eye is done. A curved needle with number one catgut suture is inserted through the muscle from within out. The catgut is cut so a tie can be made on each side and when this is done the tucker is removed. The loop or tuck is then sutured with fine catgut to the muscle along its attachment. The usual after-treatment is given.

REPORT OF CASES.

Case No. 1: Miss P., white, age 14. History of left eye squinting since three years of age. There was a convergence of 48°. The operation was done under general anesthesia and you may see the end results.

Case No. 2: This young lady had a convergence of 40°. The work was done under general anesthesia.

Case No. 3: This was a case of paralytic squint since childhood. The external rectus was so weak and flabby I decided a tenotomy was necessary.

Case No. 4: This little fellow had an advancement done by another surgeon with no improvement. We did the Todd tucking on the right eye and you see the end results.

DISCUSSION.

Dr. L. S. Gaudet: Mr. Chairman, and Gentlemen: The problem of muscle work represents several phases. You have some men who will do nothing but cut the muscle, and others who will use the tucking method wherever it is practicable. Of course, wherever we can use some means or method of tucking—and of course, Todd tucker is one of the good ways, but different men have brought out different forms of tuckers; I am very familiar with Bruns', because I worked under him a great deal. One advantage of the tucker is, if

you have a failure with that you have a second line of defense in doing a tenotomy. The other thing you must bear in mind is, you must not do it on children too young. I never do it under eight or nine years old, for you want sufficient development of the muscle to get good results. If you do it before that time you usually don't get good results. Doctor Posey said something about having done some under general anaesthetic. Wherever you can get the confidence of the child you can do most of these cases under the local anaesthetic, usually one per cent solution of novocain. Sometimes the results are very good, and sometimes the results are not so good, for the fact that you have no means of measuring the exact amount of tucking to be put in. Sometimes you have forty degrees, or fifty degrees, of squint, and you have no way of taking up a definite measurement when you use your tucker; consequently, in a good many cases you don't get perfect results; there may be a little squint after the operation. But, as a whole, the tucker method is by far the most superior, and the one which will give you the best results.

I enjoyed the paper very much.

Dr. E. L. Posey (in closing): I enjoyed the discussion. The instrument I use is so graduated in millimeters I can pretty well tell how much to take up in order to get a straight eye. If I have a convergence, say of forty degrees, I have it so graduated that I can take up to about six or seven, and so on. I thank you, doctors.

NASAL SURGERY UNDER RECTAL ANESTHESIA.*

EDLEY H. JONES, M. D.,
VICKSBURG, MISS.

In the average run of cases that come to the nasal surgeon there are some that are poor subjects for local anesthesia. Strict asepsis, as well as convenience, prohibits anesthesia by the inhalation method. It is this particular type of case to which I wish to call attention and to suggest the use of rectal anesthesia. In this paper I am not bringing out any thing new; instead, I wish to call attention to this method, which has been developed by others.

The basic requirement of an anesthetic is analgesia with the minimum of risk. The analgesia need not be accompanied by

*Read before the Mississippi State Medical Society, Jackson, May 12-14, 1926.

unconsciousness; in our line of work it is distinctly an advantage for the patient to be sufficiently conscious to co-operate. It is essential for the patient to keep quiet. Rectal anesthesia has all of these advantages and more.

Ether by rectum was first suggested by Pirogoff in 1847, and that same year Roux reported a case, using ether with water. In 1884 Yocum of Copenhagen and Molliere of Lyons reported using hand bellows to force ether vapor in the rectum and later, on using a rubber tube connected with an ether container in a water bath at 122°F. The method was taken up in some of the Eastern hospitals, but Weir and Bull reported grave results following its use, which was confirmed by others, and the method was dropped.

In 1902 Dr. John H. Cunningham of Boston made the first noteworthy advance, devising an apparatus whereby ether-laden air was forced into the rectum. Sutton improved both the apparatus and the method, using oxygen, but it again fell into disuse.

To Dr. James T. Gwathmey of New York belongs the credit of developing the modern method. Baskerville and Wallace, co-operating with Gwathmey, found that while ether evaporated at 34.6 C., it does not escape as violently when combined with oil, even when heated to body temperature (37 C.) Further, they found the ether, so combined, evaporated at a definite and fairly fixed rate. This permits of an even plane of anesthesia. The patient does not absorb a large amount of ether on injection but becomes gradually anesthetized.

Later, Dr. Hooper of the Metz Laboratories associated himself with Gwathmey, studying the synergistic action of other drugs with ether. They found that magnesium sulphate, along with prolonging and enhancing the analgesic effect of morphine, greatly enhanced the anesthetic effect of ether and, in the quantities used, did not add greatly to the toxicity. They further found that the addition of 2.5% novocain to a 50% sol. of magnesium sul-

phate and .4% sol. of morphine sulphate (2 cc. containing $\frac{1}{8}$ gr. morphine) increased the analgesic and anesthetic actions of the combination 25% and definitely prolonged its action.

Several factors recommend this method. It removes a psychic factor—the patient's dread of "going to the operating room to be cut on"—because the patients go to sleep and wake up in their room. In the operating room they are calm and relaxed; not apprehensive or nervous. Physiologically, the kidneys and stomach do not appear irritated; the pulse and respiration are usually slightly lowered; and the ether-laden blood, passing through the abdominal venous channels and heart before reaching the lungs, causes very little secretion of mucus, thereby lessening the danger of pneumonia. It is not contra-indicated in cases of asthma and mild bronchitis. The stage of excitement is usually absent and when present is greatly lessened both in intensity and duration. The reflexes are not abolished and the patient can cough or swallow; usually the patient is able to answer questions intelligently and can always be aroused. The day after the operation the majority of patients have no recollection of what happened in the operating room.

This method, properly used, is not as dangerous as popularly supposed. In 1923 Cottis sent a questionnaire to all the men he knew who used this method. Thirty-seven answered, reporting a total of 7,073 cases with only six deaths—four of these deaths were reported by the surgeons as not due to the anesthesia, one was attributed to an error in dosage and one was not accounted for. It should be noted that these cases included a large number of hyperthyroidic and exophthalmic goitre patients, as well as some hernias and asthmatics. Last year Beck, Pollock and Lederer reported 2104 cases, with only one fatality—and that one due to hemorrhage. Since the adoption of the ether-oil method

no hemorrhage from the bowel has been reported.

This method is contraindicated in any diseased condition of the colon or intestine, hemorrhoids, ulcer and fistula-in-ano. It is not suitable for emergency work.

TECHNIQUE.

The second night before the operation the patient takes a cathartic. Light diet is advised for the following day. The patient enters the hospital the night before the operation, is given a soapsuds enema at bedtime and nothing by mouth after midnight. Two hours before the operation a tap water enema is given, followed in forty-five minutes by subcutaneous or intramuscular injection of 2 cc. 50% sol. magnesium sulphate and 2.5% sol. novocain with $\frac{1}{4}$ gr. morphine sulphate. One hour before operation the patient is placed in the Sims position and a mixture of ether 2 oz., paraldehyde 2 drs., alcohol $1\frac{1}{2}$ drs. and olive oil 2 oz. introduced through a rectal tube. The mixture should be given in small amounts and very slowly. The tube is then clamped and allowed to remain. The patient then lies on his back, a towel placed over his eyes, the room darkened and absolute quiet maintained. From the moment the hypodermic is given until the patient has completely recovered, it is most important that the patient have the constant attention of a very capable nurse. The full analgesic effect is usually attained in forty to sixty minutes.

In the operating room, quiet must be maintained. It is occasionally necessary to give a small amount of ether by the inhalation method "to get the patient under" (when it is discontinued) but this has not been necessary in my experience. If the skin is to be incised it is sometimes necessary to inject novocain along the line of incision. In either case a very small amount is sufficient.

The dosage mentioned above is for an adult weighing 135 to 150 pounds; for larger patients the ether and oil may be increased but the paraldehyde and alcohol

remain constant. I would not advise more than $3\frac{1}{2}$ oz. for any patient and the mixture should not total more than 8 oz. or it is liable to be expelled.

Beck, Pollock and Lederer advise using 3 injections of $\frac{1}{8}$ gr. morphine sulphate in 2 cc. 50% magnesium sulphate and 2.5% novocain solution, given at thirty minutes intervals; the ether-oil mixture is given at the same time as the last hypo.

During the operation the patient should be as closely watched as in any other type of anesthesia. Should the patient be too deeply anesthetized the danger signs, in the order of their occurrence, are loss of corneal and swallowing reflexes, shallow respiration, slight cyanosis, stertor or embarrassed respiration and weak pulse. Should these symptoms appear, the clamp should be removed from the rectal tube and pressure made over the sigmoid colon; then flush the colon with a warm solution of strong coffee. Much of the other mixture will be recovered.

After the operation the tube is removed and the colon flushed out with a warm solution of coffee before the patient leaves the operating room. The patient usually sleeps for two or three hours and does not complain of pain.

The following cases will serve as an illustration:

John Williams, negro, male, married, age 42.

Diagnosis: Squamous cell carcinoma, originating from the left middle turbinate and filling the left naris.

Operation: Removal of neoplasm, preparatory to using radium. The patient was operated upon on the morning of December 4th.

There was free hemorrhage, necessitating fast work, and following the operation the nose, of necessity, was very tightly packed. During the operation the patient was able to expectorate the blood that ran down his nasopharynx and could be aroused to answer questions. He slept till late in the afternoon and was quiet and comfortable during the night.

This method is fairly simple and the patients usually get along splendidly, yet the patient at all times must be carefully watched and every precaution taken. Beck

recommends using a professional anaesthetist thoroughly trained in this method, but this is out of the question for those in small communities who use it only occasionally. A capable nurse working under personal supervision should, I believe, be able to handle the cases properly.

While the term "Rectal Anesthesia" is popularly used, I think it is a misnomer, as "anesthesia" suggests loss of reflexes and consciousness. Beck described his work as "Synergistic Analgesia," stating that the anesthesia depends, not on the ether or the morphine, but on the combination, with morphine the major factor, drawing his conclusion from animal experiments. However, "Synergistic Analgesia" is a rather broad term, covering various combinations. On the whole, I think "Rectal Analgesia" would be a better term.

In conclusion, it is not my intent to suggest this method instead of a local anesthesia, but merely to add it to our anesthetic armamentarium—to suggest another method in cases suitable for local or inhalation anesthesia.

DISCUSSION.

Dr. L. S. Gaudet: Doctor Jones has given us a very interesting and very important paper. It has been my good fortune to assist Dr. C. W. Allen, and he has used it with beautiful results. It has been my good pleasure to spend a month in Doctor Beck's clinic in Chicago, and I had full opportunity to observe a number of cases of his; synergistic analgesia, just as Doctor Jones outlined, is the method he used. First of all, whether it is synergistic analgesia or rectal anesthesia, it is absolutely necessary that we choose our cases, and choose them very carefully. I remember one time I had a malignancy of the base of the tongue with one gentleman, and we tried rectal anesthesia on him, because his surgeon had given thirty or forty cases of rectal anesthesia with good results and insisted we have rectal anesthesia. Unfortunately he gave this rectal anesthesia, and we had finally to use ether to put him to sleep, because first of all our surgeon, who so positively said we must have rectal anesthesia, failed to remember that this man was a hard drinker, and in cases of alcohol or other addicts, you will not get good results.

The next thing, as Doctor Jones has said, we must have co-operation. It is necessary, if you

work in a small community, to have one or two assistants whom you shall train to co-operate with you that you might get the results, because you cannot do this work as you do with a general anaesthetic with ether, owing to the fact that these patients have to be watched, and those who watch them have to know their business. From the very moment you start on these cases they must not be left alone. In the case of synergistic anesthesia, Doctor Beck did all kinds of operations. I assisted him myself, and in the majority of cases we got perfectly beautiful results. The patient would be lying there sleeping; if you would talk with them, they would talk with you, and tell you yes or no, whether you hurt or not; but most of the time slept on, and usually got off of the table in good condition. You must watch the patients that they don't get an over-effect of ether. In my mind, in our communities, we haven't got to the point where we have been able to work out a system or plan whereby we can do more work by rectal anesthesia or synergistic analgesia. In our communities we have one or two small institutions, and the nurses and doctors in these institutions do not have time to co-operate because they have lots of work to do. But to make a success of it, you have to have a highly trained assistant; otherwise, you will have a great many fatalities. Doctor Jones has given us a very interesting paper, and I hope that we might have Doctor Pollock or Doctor Lederer come before our session and give us a talk later on, on the subject.

Dr. D. C. Montgomery: Personally, I have had no experience whatever with rectal anesthesia, and am not competent to talk on this paper. I think, however, that probably it will come more into use than it has been in the past. Most of us are so situated that we haven't the competent services, or the competent assistance, or the expert methods, that it requires. So far, I have been able to get along without rectal anesthesia with very good success. However, I know we all appreciate this paper, and perhaps in the future we will be able to handle it better, when better equipped.

Dr. John J. Shea. I have had a goodly number of anaesthetics of this type, and I am a great admirer of it, not always using the full dosage, and I find it is an ideal anaesthetic under these conditions. For instance, in doing a radical antrum, if you can do it under local anaesthesia the major part of the operation is done away with, because the bleeding is minimized; you can do it in a few minutes with perfect ease, and it is a rather simple operation; whereas, to care for that same patient under a general anaesthetic is a job. Quite often the patient will object to letting you do it with the nerve block, and will ask that it be done

under general anaesthetic. It is in that type of case that a partial rectal anaesthesia is an ideal thing. I do not mean to put them in a state of surgical anaesthesia, but to put them to the point where they will not resist what you do. For that we give them one ounce of ether, one ounce of olive oil and one dram of paraldehyde for every fifty pounds of weight; and if the patient weighed 110 pounds, we would give them two ounces of ether, two ounces of olive oil, and two drams of paraldehyde. Quite often, though, instead of giving them the straight morphine, we give them the H. M. C. I know of nothing that has been a better help in sinus work than the rectal anaesthesia.

Dr. E. F. Howard: Doctor Gaudet and Doctor Shea have both brought out the point I wanted to know. I read Beck's article with a great deal of interest. He uses three-eighth grains of morphine, 3 ccs. fifty per cent magnesium sulphate solution and 150 milligrams of novocain hypodermically and he puts in three ounces of ether with three ounces of olive oil and two drams of paraldehyde. The $\frac{3}{8}$ morphine is a pretty fair dose and the 150 milligrams of novocain is a pretty fair dose, when you remember the committee on local anaesthetics had reported to it one case where the patient died from $162\frac{1}{2}$ milligrams; and then the dose of paraldehyde is fairly heavy. It has always struck me that if we follow along the lines of such dosage as that, and I judge that was a sort of set dose for a 150 pound man, we are going to have some killings, and I am afraid we will. Beck had two reasons for using this method. He wanted to devise a method he could use in those cases in which he wanted to get the hands and the apparatus of the anaesthetist away from the operative field, which, of course, is desirable. His other reason was that the committee on local anaesthetics had forbid the use of any solution of cocain greater than ten per cent, and he couldn't get away with the ten per cent solution, and he felt himself called upon to abide by their decision. Of course, to his first reason there can be no exception; but to use such a method in a nose case that could be operated on, by local anaesthesia, with a dose of cocain, that we concede to be safe, or to take out of a pair of tonsils under such anaesthesia when the novocaine alone is more than is necessary when used locally, unless you want to drown your patient, is beyond my powers of reason. My loyalty does not take me that far, especially if I can live within the realm of one of their rules, less than the 100 milligrams of cocain, by using the stronger concentrations. The question comes to me whether, if we limit ourselves to those cases where we want to get away from the operative field or the patient won't stand for local anaesthetic, or the local anaes-

thetic is not advisable—are we going to have enough of those cases ourselves to make us at all proficient in the use of this synergistic method? If Beck, after two thousand cases, still wants a skilled anaesthetist, what is one of us poor fellows down here going to do; especially when we remember that if Beck has a death from anaesthesia, that is only one case to mess up his records while with us it is a professional knockout. Aside from the standpoint of selfishness I have also the question of whether we want to tackle a thing that we are really, I feel, not qualified to handle, and will never have sufficient experience to enable us to qualify.

Dr. E. H. Jones: There are several little things here that this discussion has brought out that I want to emphasize over again. Doctor Beck's experience is greater than that of anyone I know of. I am certainly not standing up here trying to tell you of mine, because mine has been very limited, but it has been entirely satisfactory. Doctor Beck said when they had to incise the skin they frequently had to inject novocain solution, and when they did so, a smaller amount than normal was required; further, that in those cases where ether was used by the inhalation method a much smaller amount was required. He also included in his report the fact that some were over anaesthetized, and, it is very interesting to note, that in some cases he flushed out the colon and allowed them to stay there until they had sufficiently recovered to be operated.

Now, this discussion also brought out that this does not work well in cases of alcoholics. I haven't operated on any alcoholics, but Beck says specifically it worked well on alcoholics.

Another thing is the $\frac{3}{8}$ grain of morphine. That is a large dose, but $\frac{3}{8}$ of a grain of morphine was given, $\frac{1}{8}$ at a time, thirty minute intervals, under careful observation.

It is not my purpose to suggest this method instead of local; it is not as convenient, and there are other factors, but there are many cases where it is ideal—I remember one case I operated on under local, and I wished many times since I had used rectal. It would not seem to me necessary to have a trained anaesthetist to observe one case, if you have a capable nurse and give it your personal supervision. Beck wants a trained anaesthetist, because he is not doing one case a day, but a half dozen, and he can't stay and watch each one of those cases. If we only have one case a day, and have a capable nurse or assistant to turn it over to under our supervision, it would certainly appear safe.

In conclusion, this is a new method, but we always have to be on the lookout for new methods, and those which prove unsatisfactory we must discard and look for others.

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DR. MORRIS FISHBEIN'S TOUR.

A recent event of more than passing interest was the speaking tour of Louisiana made by Dr. Morris Fishbein, Editor of the *Journal* of the American Medical Association and *Hygeia*. The itinerary undertaken on the joint invitation of the Journal Committee of the Louisiana State Medical Society and the President of the Society, included Shreveport, Monroe, Alexandria, Opelousas, Lafayette, Baton Rouge and New Orleans.

In each place the arrangements were made by the Councilor in co-operation with the District Medical Society.

The first address at Shreveport, one before the members of the Fifth District

Medical Society, was delivered in the City Hall at 4:00 p. m., December 6th. The subject was "Fads and Quackery." The same day at 8:00 p. m., Dr. Fishbein spoke to the general public at the First Methodist Church on "Twenty-five Years of Medical Progress." Both addresses were very well received. At the night meeting, notwithstanding the place, liberal applause was the tribute of the audience, both at the close of the address and after questions had been put to the speaker and answered.

At Monroe the Fourth District Medical Society heard a talk on "Cancer Cures" at 11 a. m., and another on "Business Ethics and Medical Ethics" at 2:30 p. m., both at the Virginia Hotel. At 3:30 Dr. Fishbein addressed the High School students on "Positive Health."

At Alexandria, there was an address to the High School students on "Positive Health," and one before the Eighth District Medical Society at the Hotel Bently on "Business Ethics and Medical Ethics," with some remarks on "Periodic Health Examinations."

The address on "Fads and Quackery" was repeated before the Seventh District Medical Society at Opelousas, with an addendum on "Cancer Cures," and before the Third District Medical Society at Lafayette.

The Baton Rouge meeting (Sixth District) was held at Carville, in the United States Leprasarium.

The final meeting was in New Orleans Friday, December 10th, 8:00 p. m. Both of these meetings heard the address on "Twenty-five years of Medical Progress."

At all the meetings the putting of questions by the audience, whether lay or professional, was a feature of the event.

Dr. Fishbein's visit, which culminated in his attending as a guest the annual dinner of the Orleans Parish Medical Society on December 11th, was of inestimable value to medical organization in the State. It

freshened the bonds that unite the several local organizations into the State Society, and this in turn with its peers into the national body of ethical physicians. The success of the tour was largely due to Dr. Fishbein's thorough acquaintance with his subjects, his straightforward, unwavering attitude on ethical points, and his easy good fellowship. We are glad to have had him with us and hope that at no distant day he may again visit the scene of his successful swing around the circle.

"SKILLED IN SANITARY SCIENCE"

This is the qualification laid down by the laws of the State of Louisiana with reference to men who undertake the duties of a parish health officer in this State. Many of the letters coming to the State Board of Health from part-time health officers who are groping their way in abject ignorance of their functions afford convincing evidence of the mockery that is being made of so serious a question as health.

According to the death records for 1924, which are the latest data given in the biennial reports of the State Board of Health, there were in that year 24,892 deaths in Louisiana, and of this number 8,407 were due to diseases whose prevention and control come within the scope of adequate local health service. Despite the fact that more than a third of the current deaths, as shown by these figures, are in a sense unnecessary, in most of the parishes the all important job of health conservation either goes begging for want of sufficient compensation, or is handed out to someone as a settlement of a political debt. It is no wonder, therefore, that men "skilled in sanitary science" are exceedingly rare in the office of parish health officer. The part-time health officer receiving \$25.00 to \$50.00 per month is not to blame for being unskilled in sanitary science. He has a living to make, which is not afforded by so meagre a salary. He can not afford to prepare himself properly for the job, nor could he afford to spend the necessary time

on it if he were properly prepared. In one sense he is deserving of abundant sympathy and assistance, which, of course, the State Board of Health always gives to the fullest extent. But in a broader sense he merits a large measure of blame, for this one thing,—namely, that he should accept a grave responsibility which he is totally unprepared to discharge as it should be done. It would be almost unthinkable for a doctor not highly skilled in surgical procedure to attempt an operation having a mortality of over 33%, and yet the same responsibilities on a much larger scale are being assumed by part-time health officers quite generally and quite thoughtlessly. When physicians of the State will stubbornly refuse to accept positions for which they are not sufficiently equipped, both as to training and time, the public will begin to understand the seriousness of toying with such a vital issue as health conservation.

While physicians unskilled in sanitary science are at fault in essaying a task which they know they can not adequately perform, the prepondering burden of criticism is upon the public for trying to purchase health and safety at bargain prices. Although the evidence indicates that one out of every three deaths in Louisiana might be prevented by proper health service, the public is entitled to but scant sympathy for such terrific loss. When it is known that health is to a large degree purchaseable, and a community through its officials appraises the prospect of saving one-third of its current deaths at \$25.00 per month, unnecessary deaths are to be expected, if not quite heartily deserved.

It is, of course, hardly possible by the investment of money in health service to stop all the waste of human life and health. However, no Police Jury has discharged its duty to its people until it has made a reasonable investment of money, sufficient, at least, to secure the services of a doctor "skilled in sanitary science," who shall give his full time and undivided attention to the business of preventing disease and promoting health.

THE FAMILY DOCTOR.

Christmas cheer, the sages say
Comes once a year on Christmas day,
With peace on earth to those whose will
Is not employed in doing ill.

We've heard this song for years and years,
Sometimes with laughter, oft with tears,
We've seen the doctor on this day
Through snow and ice his visits pay.

And faithful to his honored name,
To rich and poor and pampered dame,
Indifferent to the place and hour,
He gave the best within his power.

In country, city, mountain, dale,
To those who'd hit the sunset trail,
The doctor in his gig was there,
His presence only, soothing care.

They say that times do change, alas,
And people, customs, methods pass
Into that limbo from whose bourne
'Tis quite well known they ne'er return.

Behold him now, our patient Doc,
This man of science feels the shock
Of modern progress, and his rounds
Are made with ease when mud abounds.

He hails his car and chauffeur, too,
And steers his way through marsh and
slough;

He does his duty just the same
To rich and poor and fussy dame.

But anyhow we often feel
Our doctor's changed; the old appeal
Seems gone, and now we find
A slightly altered state of mind.

The trusted friend of childhood days,
Has given place to one whose ways
Are tempered with the unwelcome chill
Of cold commercialism against his will.

Aye! Times DO change and people, too;
The past has gone; now comes the new.
But after all, we're bound to see
The same old spirit 'round the Christmas
tree.

—Oscar Dowling.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of December there has been held one meeting of the Board of Directors, two Special meetings, and the Stanford E. Chaille Memorial Oration.

One Special meeting was called in honor of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association and the Health Magazine Hygeia, published by the American Medical Association, who gave a very interesting talk on "Twenty-five Years of Medical Progress." Dr. Fishbein was sponsored by the Louisiana State Medical Society and the New Orleans Medical and Surgical Journal on a tour through Louisiana.

A second Special meeting was called by the President on Tuesday, December 21st, 1926, to vote on a resolution giving the President and the Treasurer power to transfer the Government Bonds we now have in our possession, also to vote on the report of the Judiciary Committee in re. case of Drs. Otto Braun, A. Mattes and M. S. Rosenthal, who were charged with Unprofessional conduct. These Doctors were suspended from the Society until October 1st, 1927.

The First Stanford E. Chaille Memorial Oration was held on Monday, December 13th, 1926, Dr. Allen C. Whipple, Professor of Surgery of Columbia University, New York, being the orator. The title of his paper was "The Spleen and Its Relation to Blood Dyscrasias."

The Annual Election of the Society was held Saturday, December 11th, 1926, which resulted in the following being elected as Officers for 1927:

- Dr. A. E. Fossier, President.
- Dr. John F. Dicks, First Vice-President.
- Dr. C. Grenes Cole, Second Vice-President.
- Dr. E. L. King, Third Vice-President.
- Dr. H. Theodore Simon, Secretary.
- Dr. John A. Lanford, Treasurer.
- Dr. Daniel N. Silverman, Librarian.

Additional members Board of Directors:

- Dr. Fred L. Fenno.
- Dr. Maurice J. Gelpi.
- Dr. Emmett L. Irwin.

The regular Scientific Meeting scheduled for December 27th was dispensed with on account of confliction with the Christmas holidays.

The following Doctors were elected to Active Membership in the Society: Drs. Harold O. Ernst, Philip H. Jones, Jr., Ralph W. Mendelson, Philip

Montelepre, L. W. Magruder, Florena G. Rich, Joseph F. Sicomo, and Daniel D. Warren.

The following Doctors were elected to Interne Membership: Dr. Chas. D. Peavy and Dr. A. R. Sims.

Dr. Hamilton P. Jones, a member of this Society, died on December 5th, 1926.

The membership of the Society to date is 485.

REPORT OF TREASURER

November

Actual Book Balance 10/30/26	\$2,381.04
Receipts during November	418.85

<i>Total Receipts</i>	\$2,799.89
Expenditures	1,449.12

<i>Actual Book Balance</i>	\$1,350.77
Outstanding checks	55.50

<i>Bank Balances</i> 11/30/26	\$1,406.27
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REPORT OF LIBRARIAN.

November

One bibliography has been prepared during the month on the subject: Echinococic Cysts of the Liver. This list has been filed for subsequent use.

Sixty volumes have been added to the library. Of these 38 were received by gift, 10 by purchase and 12 from the New Orleans Medical and Surgical Journal.

The Library has been the recipient of book gifts during the month from Dr. H. J. Otto and Dr. P. B. McCutcheon. Letters of appreciation have been written to these donors, expressing the gratitude of the Society for their co-operation. A list of titles of recent date is appended:

NEW BOOKS.

November, 1926

- Power—Chronologia Medica. 1923.
- Hill—Manual of Proctology. 1926.
- Wyeth—Surgery of Neoplastic Diseases. 1926.
- Morgan—Electrothermic Methods in Neoplastic Diseases. 1926.
- Bartlett—Surgical Treatment of Goiter. 1926.
- Sampson—Practice of Physiotherapy. 1926.
- Potter—Materia Medica, Pharmacy and Therapeutics. 1926.
- Osler—Modern Medicine. v. 3. 1926.
- Dana—Peaks of Medical History. 1926.

Lorand—Defective Memory, Absentmindedness and Their Treatment. 1926.

Gould—Medical Dictionary. 1926.

Dickson—Rational Gland Therapy for Women. 1926.

Holmes—Roentgen Interpretation. 1926.

Medical Aspects of Gas Warfare, by various authors. 1926.

U. S. Public Health Reports. V. 41, pt. 1. 1926.

International Congress of Military Medicine and Pharmacy. 1925.

A. M. A. Council on Pharmacy and Chemistry. Annual report. 1925.

A. M. A. Council on Pharmacy and Chemistry—Annual Reprints of Reports. 1925.

A. M. A.—New and Non-official Remedies. 1926.

H. THEODORE SIMON, M. D.,
Secretary.

A DOLLAR OR TWO.

With cautious steps
As we tread our way through
This intricate world
As other folks do,
May we on our journey
Be able to view
The benevolent face
Of a dollar or two.

No friend is so true
As a dollar or two,
No help sees you through
Like a dollar or two;
In a country or town
As you walk up and down,
No passport compares
With a dollar or two.

Would you rid yourself ere
Of the bachelor crew
And for the hand of some
Female divinity sue;
Have a place in the church
With a well cushioned pew
You must always be ready
The handsome to do—
Pay down on the nail just
A dollar or two.

Love's arrows are tipped
With a dollar or two,
Salvation is gained by
A dollar or two,

And men have been buried
And covered with dew,
All for the sake of a
Dollar or two.

And when with the cares
Of this world you are through
And the loves and the joys
And the rest of it, too,
You awake to the fact
That the thing still to do
Is to smooth out the way
With a dollar or two.

What risks you would run
For a dollar or two,
Crook a leg, wag a tail
For a dollar or two.
There's naught you can do
If you want to get through
But bow down your head
To a dollar or two.

At last at the gate
Of St. Peter you stand
With a look of submission,
A harp in one hand;
He will squint at the other
And the devil takes you
If it doesn't encircle
A dollar or two.

You may howl like a Jew
For a dollar or two,
On your knees you may sue
For a dollar or two
But Paradise Lost
Is what it will cost
If you can't come across
With a dollar or two.

For aeons of time
He'll condemn you to dwell
In the hot antechamber
Of old Satan's Hell,
Till one of the imps shall
Take pity on you
And passes the hat
For a dollar or two.

—L. C. S.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

ADDRESS OF DR. MORRIS FISHBEIN IS FEATURE ON PROGRAM OF THIRD DISTRICT MEDICAL SOCIETY.

Dr. Morris Fishbein, of Chicago, editor of the Journal of the American Medical Association, and contributor to other publications and an international figure in the medical world, was the principal speaker at the meeting of the Third District Medical Society, held in Lafayette Thursday night.

Physicians from various parts of the Third Congressional District met at the Elks' Home at 7:30 o'clock for a program which preceded a banquet at the Terrace Hotel.

Dr. H. A. Eldredge, of Abbeville, first vice-president of the Society, opened the meeting and presided in the absence of the president, Dr. Harold G. F. Edwards of this city, who is attending clinics at the Mayo Brothers Sanitarium at Rochester, Minn. Dr. R. D. Voorhies, of this city, who is secretary and treasurer of the society, and Dr. Frank Gouaux, of Lockport, who is Third District Councilor of the Louisiana State Medical Society, were also among those taking part.

Dr. Eldredge presented Dr. Gouaux, councilor, who spoke of the pleasure of the society in having Dr. Fishbein, Dr. Blackshear and other visitors in attendance. He then presented Dr. Blackshear, who is a prominent physician of New Orleans.

The State Medical Society head told of the tour which he and Dr. Fishbein had been making during the past week, during which a number of cities in this state have been visited. He spoke of the prominence of Dr. Fishbein in the medical world and of the interest which had been created by his visit to Louisiana. He then presented Dr. Fishbein.

Speaking on the theme of "Fads and Quackery in Medicine," Dr. Fishbein referred to a number of movements which are opposed by the medical profession as represented in the American Medical Association. "There are 137 forms of quackery in the United States," said the speaker. Touching upon which he termed "fads" in medicine, Dr. Fishbein said that the American Medical Association is opposed to secrecy being maintained in connection with new or improved treatments discovered from time to time, and referred to some reported discoveries, particularly those for treatment of cancer. He told of steps which had been taken by the American Medical Association to expose certain alleged cancer cures.

Speaking of the standards adopted by the American Medical Association, Dr. Fishbein said that those entering the medical profession are required

to complete two years of college work, four years in a medical school, and one year as interne, and compared this length of time with much shorter periods in which he said those engaged in movements not recognized by the physicians were allotted to complete their training.

On motion of Dr. W. F. Carstens of New Iberia, Dr. Fishbein was extended a rising vote of thanks for his presence and his address.

An invitation extended by Dr. C. C. DeGravelle, of Morgan City, to have the society hold its next meeting in that city, was accepted.

At the Terrace Hotel, where the members and their guests gathered later for a banquet, an excellent five-course menu was served. There was also a program of informal talks, with Dr. Eldredge presiding as toastmaster.

Dr. Fishbein, speaking at the banquet, gave details of the work of the American Medical Association, particularly in the matter of arranging for radio addresses, newspaper articles and other features impressing upon the public the importance of health matters. He endorsed the idea of physicians visiting the schools and making health talks, a subject which was referred to by one of the other speakers, Dr. DeGravelle of Morgan City.

Dr. K. E. Miller of the U. S. Public Health Service, who is accompanying Dr. Fishbein, Dr. Blackshear, and Dr. Hermann Gessner of New Orleans, on the tour this week, brought greetings from Dr. Oscar Dowling, President of the State Board of Health, who expressed regret at being unable to be present.

Dr. Gessner, who is chairman of the committee in charge of the publication of the New Orleans Medical and Surgical Journal, issued in connection with the work of the state medical society, told of the progress made in the publication and of the plans for the future.

Dr. J. R. Olivier, dentist, of St. Martinville, who was among guests at the meeting, urged closer co-operation between physicians and dentists. Inquiry developed that members of the dental profession may become associate members of sectional medical groups, and Dr. Olivier was voted an associate members of the Third District Society. Announcement was made that an invitation was extended to other dentists to become associate members.

Other speakers at the banquet included Dr. R. D. Voorhies, Dr. C. P. Daly, Dr. M. E. Saucier, and

Dr. L. O. Clark, of this city; Dr. W. F. Carstens, of New Iberia; Dr. J. T. Abshire of Kaplan, and Dr. Blackshear who expressed his congratulations over the success of the meeting and for the interest and co-operation which had been shown.

IBERIA PARISH MEDICAL SOCIETY.

The Iberia Parish Medical Society held its annual meeting on December 16th in New Iberia, La., and elected the following officers for the year 1927.

President, Dr. P. A. Boykin, Jeanerette; Vice-President, Dr. H. A. King, New Iberia; Secretary-Treasurer, Dr. W. F. Carstens, New Iberia; Delegate, Dr. Guy A. Shaw, Loreauville; Alternate, Dr. P. A. LeBourgeois, Jeanerette.

This society, through its efficient Secretary-Treasurer, Dr. W. F. Carstens, boasts a 100% membership in the Louisiana State Medical Society.

LAFOURCHE PARISH MEDICAL SOCIETY.

The Lafourche Parish Medical Society met in Thibodaux, La., December 16th, 1926, and elected the following officers for 1927:

President, Dr. Charles Barker, Thibodaux; Vice-President, Dr. Albert Meyer, Thibodaux; Secretary-Treasurer, Dr. Philip Dansereau, Thibodaux; Delegate, D. J. J. Ayo, Raceland; Alternate, Dr. Charles Barker, Thibodaux.

OPELOUSAS MOURNS DEATH OF CORONER

Military Funeral Given Dr. R. M. Littell, Leader in St. Landry.

Opelousas, December 4th, paid its final tribute to Dr. Robert M. Littell, veteran coroner of St. Landry Parish, where he was leader for many years, whose burial took place on the above date. He was one of the best known citizens of southwest Louisiana, and at one time was captain of the military company in Opelousas. Dr. Littell, who died Friday, was given a military funeral, and the Elks, of which he was a member, also attended in a body. All business houses were closed during the hours of the funeral.

Funeral services were conducted at the Catholic church and interment was made in the Catholic cemetery. Dr. Littell is survived by his wife, two daughters and two sons, Miss Eleanor Littell and Mrs. Percy Walker, Bryan Littell, all of Opelousas, and Dr. Ike Littell of Alexandria; three brothers, Dr. B. A. Littell and Leonce Littell of Opelousas, and Dr. Theo. H. Littell of Ville Platte; three sisters, Mrs. Florence Wartelle of Opelousas, Mrs. K. T. Catlette of Rosa, La., and Mrs. Katie Samson of Houston, Tex.

The funeral cortege left the residence at 4 o'clock followed by the Elks and local military company and a large concourse of friends.

At the annual convention of the Radiological Society of North America, held in Milwaukee from November 29th to December 3rd, 1926, Dr. Amedee Granger was presented with a gold medal which was awarded in recognition of his work on the sphenoidal sinuses, and the additional honor of being made Vice-President for the coming year was also conferred upon him.

Dr. Granger is too well established in this section of the country to need an introduction. He is head of the Department of Roentgenology of the Graduate School of Medicine of Tulane University of Louisiana and in charge of the X-ray Department of the Charity Hospital.

The event of the month in medical circles in the Fourth District was the visit to Shreveport, on the 6th of December, of Drs. Fishbein, Blackshear and Gessner. Dr. Fishbein spoke to the doctors of the district, in the afternoon, very interestingly and instructively, on "Fads and Quackery." In the evening, he addressed the public on "Twenty-five Years of Medical Progress." On both occasions, he was introduced by President-elect Herold of the State Society. On December 7th, Drs. Fishbein, Gessner, Blackshear and Herold motored from Shreveport to Monroe, where they were guests of the Ouachita Parish Society, at the semi-annual meeting of the Fifth District Medical Society, which was addressed by Dr. Fishbein.

The annual meeting of the Shreveport Medical Society was held on Dec. 7th. Election of officers resulted as follows: President, I. B. Rougon; First Vice-President, R. S. Douglass; Second Vice-President, R. T. Lucas; Secretary, E. L. Edwards; Treasurer, J. R. Stamper; re-elected Delegates to State Society, L. Abramson, W. P. Butler, A. P. Crain, R. G. Douglass, J. E. Knighton, E. L. Sanderson.

Dr. Louis Abramson of Shreveport was elected president of Cotton Belt Railway Surgeons' Association at the meeting recently held in Texarkana.

The Tristate Medical Society of Arkansas, Louisiana and Texas will meet in Texarkana Jan. 18-19, 1927. A good program has been arranged. Any one interested should communicate with Dr. F. H. Walke, Secretary, Ricou-Brewster Bldg., Shreveport.

It is with regret that we chronicle the death of Dr. Henry Baucum, well-known physician of Haynesville, who died suddenly in December.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and in Shreveport, November 2-3, 1926.

The successful applicants are: Annie Laurie Allen, Regina Marie Arseneaux, Julia Carolyn Barber, Celine Lydia Bergeron, Elizabeth Frances Blackburn, Marie Eva Blanchet, Gladys Louise Boudreux, Nellie Hester Breithaupt, Henrietta Elizabeth Brewster, Myrtle Buell, Margaret Jean Carroll, Lena Belle Cole, Edna Bernice Cranford, Elizabeth Louise Davis, Rosa Leona Doherty, Ellen Josephine Donahue, Rubye Almata Dotson, May Cecile Dugas, Honorine M. Duplantis, Lodoiska Latimer Durrum, Ethel Marguerite Eells, Emma Wilson Emery, Rose Mary Fagan, Irene Henerietta Fairbanks, Ann Firmin, Gertrude Mary Folse, Julia Mary Folse, Jeanne Antoinette Gautreaux, Doris Gholston, Helen Yvonne Girouard, Clemence Caroline Guidry, Marguerite Adele Harvey, Elma Anne Hebert, Lessie Levenia Hosey, Vivian Lee Humphrey, Elvera Carmelina Ivulich, H'Omera Vaughn Johnson, Ruth Ashmore Jones, Laura Louise Kenison, Oma Knowes, Beatrice Carrie Landry, Louise Margaret Maybeno, Addie Mable Mayon, Adele Agatha Memtsas, Hortense Mendelson, Nellie Theresa Milburn, Fanny Helen Moore, Lillie Moss, Adrienne Mouton, Mary Elizabeth Guice Nell, Hatherine Walker Newbill, Edyth Emma Osgood, Lauda De Nyse Paris, Martha Iverson Patrick, Willie Ann Paxton, Henrietta Ethel Pharr, Vera Cicely Pike, Katie Rachel, Miriam Theresa Raport, Bobbie Edna Reiter, Jane Alice Richard, Josephine Marguerite Salome, Emma Lila Sawaya, Mary Ola Scarborough, Lucy Lee Schmidt, Mona Lee Shaw, Othilie Skaara, Mary Beatrice Sullivan, Sister Mary Brigid Broussard, Sister Urbana Crossan, Sister Mary Magdalen Lemoine, Sister Philomena Nauer, Ethelyn Mary Thiery, Alaska A. Torrey, Helen M. Sinclair Turner, Olive Elise Wakefield, Balmer Jane Waldrum, Grace Warren, Evelyn Sargent Waters, Marion Elizabeth Whittington, Cora Bivin Busey Wilson, Margaret Knoll Wilson, Pearl Lois Yeates, Anna Lee Anders, Cora Baillio, Rose Mary Baird, Addie Bourgeois, Clara Jessamine Brandon, Jessamine Carroll Brown, Viola Brown, Alyce Helen Charlan, Marie Lellia Charleville, Marie Aydell Daudmon, Annette Day, Dimple Eda Dean, Anita Isabel Discon, Sadie Emily Stilphen Harkness, Colimen C. Magnon, Mary Selvina Major, Addie Pauline Merritt, Anita Clarice Mixon, Ardys Nesmith Nettles, Jessie Mae Nichols, Eva Gladys North, Inez Angela Perry, Ethel Marie Robeau, Rae Venable, Zelia M. Waters, Anne Whiteway, Rosa B. Hodge Wininger.

Colored applicants: Jessie May Bowman, Myrtle Mae Hilliard, Mellie Kay Smith, Helen Olivia Thomas.

NORTH AMERICAN PHYSICIANS ARE INVITED TO VISIT THE CLINICS OF EUROPE AGAIN IN 1927.

In May next year a group of physicians with members of their families from the United States and Canada, under the direction of the Inter-State Post Graduate Medical Association of North America, will sail from New York to visit the following leading medical centers of the Old World:

London, Edinburgh, Oslo, Stockholm, Upsala, Lund, Copenhagen, Hamburg, Leipzig, Munich, Strasbourg, Heidelberg, Frankfort and Paris.

This will be the third year that foreign assemblies have been conducted under the auspices of this organization. Those of 1925 and 1926 were exceedingly successful and of great benefit to the physicians who took advantage of them. No doubt the 1927 assemblies will meet with equal success.

In including Norway, Sweden and Denmark, in the itinerary, the Association is offering the profession an exceptional opportunity to visit and study in some of the finest clinics in the world.

The group of physicians will be limited to a number that can be comfortably accommodated in the clinics which will cover the entire field of medical science.

The price of the trip will be kept as low as possible and yet furnish first-class accommodations. It will be between \$1000.00 and \$1100.00. All physicians who are in good standing in their State or Provincial Society may register. Further information may be obtained from the Managing-Director, Dr. William B. Peck, Freeport, Illinois, or the Travel Department of the American Express Company, 65 Broadway, New York, N. Y., who have charge of the transportation.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS, PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about Three Hundred Dollars, will be made on July 14, 1927, provided that an essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published. The essay should represent an addition to the knowledge and understanding of the subject based either upon original or literary research. They must be typewritten, and in English accept-

able for publication without necessity for editing by the Committee. Any illustrations should be appropriate and correctly annotated with the text. Essays must be received by the Secretary of the College on or before May 1, 1927.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1926 has been awarded to Dr. P. S. Pelouze for his Essay entitled "The Gonophage."

JOHN H. GIRVIN, Secretary,

19 South 22d St., Philadelphia, U. S. A.

Dr. H. D. Ogden, of the Graduate School of Medicine of Tulane University, addressed the meeting of the Washington Parish Medical Society at Bogalusa, Wednesday, November 24th, 1926, on "Pyelitis and Other Infections of the Kidney."

Dr. Hilliard E. Miller, of the Graduate School of Medicine of Tulane University, addressed the meeting of the South Mississippi Medical Society at Hattiesburg, Thursday, December 9th, 1926, on "The Management of Certain Obstetrical Problems."

At the meeting of the Association of Surgeons of the Illinois Central System held at Biloxi, on December 3rd and 4th, 1926, papers were read and discussed by Drs. E. Denegre Martin, Henry Daspit, Robert Bernhard and C. P. Brown, members of the faculty of the Graduate School of Medicine.

The removal of Dr. Tilly's Clinic, Diagnostic & Therapeutic, to 1428 North Claiborne Avenue at Esplanade, is announced.

The new staff is as follows: Dr. Wilton P. Tilly, Medical Director and Chief Surgical Department; Dr. John Dunn, Chief Eye Department; Dr. George Taquino, Chief Eye, Ear, Nose

and Throat Department; Dr. Henry L. Tilly, Chief Dental Department; Dr. George Hauser, Chief Medical and Clinical Laboratory; Dr. Adolph Henriques, Chief Consultant X-ray Department; Dr. Paul Gelpi, Consultant G. U. Department; Dr. Edward Faget, Medical Associate to the Chief.

LET US TAKE HEED.

When speaking, let this be your motto, from youth—

The first of all things in importance is truth.

You should think when a virtuous person you see,

"Such virtue is possible also for me,"

And though far below him you move at the time,
By striving you yet to his level may climb.

If wickedness under your vision should come,
Examine yourself lest you also have some;
Repent if you find in your heart aught of sin,
Let your care be increased if you find naught within.

The faults you repent of are nevermore seen,
And are reckoned with those that never have been;

But if ever a failing you try to conceal,
Your efforts a greater will surely reveal.

If your lot with the wrong-doer ever be cast,
Remind him not daily of that which is past,
The personal secrets a man would conceal,
You cannot by right to another reveal.

What you think proper treatment for others would be,

First ask: "Would this conduct be pleasing to me?"

If you would dislike it if done unto you,
Do not do what you would not have other men do.

If these things you neglect, as some people have done,

And spend all your time in book study alone,
You'll become superficial though much you may know,

And to what sort of man can you hope thus to grow?

If you practice these rules and continue their use,
But study no books, you will then be obtuse;
You will see things from only your own point of view,

And thus subvert principles useful and true.

—Rules for Behavior of Children,
Isaac Taylor Headland.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

The Winona District Medical Association met at Winona, Mississippi, Tuesday, December 7, 1926, in the Baptist Church. Its program was as follows:

1. Septic Peritonitis—Joint Paper, Dr. Barksdale, Jackson, Dr. J. K. Avent, Grenada.
2. Incipient Blindness—Dr. B. S. Guyton, Oxford.
3. Some Pediatric Problems in Infancy—Dr. N. C. Womack, Jackson.
4. Practical Management of Hypertension—Dr. Otis S. Warr, Memphis.
5. Early Diagnosis of Tuberculosis by the General Practitioner, Dr. Henry W. Boswell, Sanitorium.

Dr. Raymond T. Smith, of Chicago, has recently moved to Natchez. He is associated with the Chamberlain-Rice Clinic.

The Visiting Staff of the Natchez Charity Hospital held its meeting December 8 and discussed carcinoma of the pancreas and typhoid fever.

Dr. Henry Boswell addressed a joint meeting of the Tennessee State Tuberculosis Association, Civitans Clubs and members of the state legislature at Knoxville on the evening of November 30. The purpose of the meeting was to outline the state program for care of the tuberculous to be brought before the legislature when it meets the first of the year. The subject of Dr. Boswell's address was "Role of Sanitation in Control of Tuberculosis." The address was broadcasted.

Dr. Boswell leaves shortly for New York City to attend a meeting of the Executive Committee of the National Tuberculosis Association. Members of this committee from other sections of the country are Dr. Henry Sewall, Dr. Theobald Smith, Dr. William H. Welch, Dr. David A. Stewart, Dr. Eugene L. Opie, Dr. George M. Kober, Mr. H. B. Platt, ex-officio, Dr. Linsly R. Williams, Mr. John A. Kingsbury, Dr. A. M. Foster, Dr. Alfred Henry, Dr. Charles J. Hatfield, and Professor C. E. Winslow. In the history of the association, Dr. Boswell is the first southerner to be accorded a place on this committee.

The Tri-County Medical Society held its annual meeting at Brookhaven, December 14, 1926, at the

King's Daughters Hospital and elected the following officers:

President—Dr. A. B. Harvey, Tylertown.

Vice-Presidents—Pike county, Dr. M. D. Ratcliff, McComb; Walthall county, Dr. J. E. Brumfield, Tylertown; Lincoln county, Dr. G. T. Warren, Brookhaven; Copiah county, Dr. J. M. Catchings, McComb.

Secretary-Treasurer—Miss Elise Rutledge, McComb.

Delegates—Wathall, Dr. B. L. Crawford, Tylertown; Lincoln, Dr. O. U. Arrington, Brookhaven; Copiah, Dr. W. L. Little, Wesson.

Censor—Dr. W. L. Little, Wesson.

Chairman Medical Defense—Dr. T. E. Collins, Brookhaven.

The program of the meeting was of the following subjects:

1. Local Anesthesia in Abdominal Surgery—Dr. Carrol W. Allen, New Orleans, La.
 2. President's address—Dr. O. U. Arrington, Brookhaven.
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The Central Medical Society held its December meeting and elected officers for the coming year. The annual banquet was also given at this time.

THE SIXTEENTH ANNUAL MEETING OF THE SURGEONS OF THE ILLINOIS CENTRAL SYSTEM.

*Met at the Buena Vista Hotel, Biloxi, Miss.,
December 3 and 4, 1926.*

The program was as follows:

Opening of the Meeting by the Secretary.

Reading of Minutes.

Address of Welcome by Honorable J. J. Kennedy, Mayor of Biloxi.

PAPERS AND DISCUSSIONS.

1. "Gas Bacillus Infections in Civil Practice"—By J. W. Barksdale, M. D., Local Surgeon, Jackson, Miss. Discussion opened by Dr. E. Denegre Martin, Consulting Surgeon, New Orleans, La.

2. "Urogenital Ailments of Middle Age"—By H. W. E. Walther, M. D., Consulting Urologist, New Orleans, La. Discussion opened by Dr. V. D. Lespinasse, Consulting Urologist, Chicago, Ill.

3. "The Use of Glucose Intravenously"—By Battle Malone, M. D., Division Surgeon, Memphis, Tenn. Discussion opened by Dr. T. J. Holke, District Surgeon, Freeport, Ill.

4. "Tryparsamid in Neurosyphilis"—By Henry Daspit, M. D., Consulting Neurologist, New Orleans, La. Discussion opened by Dr. George W. Hall, Consulting Neurologist, Chicago, Ill.

5. "Tonsils and the Health"—By J. A. Estopinal, M. D., Assistant Chief Aurist, New Orleans, La. Discussion opened by Dr. H. G. Reynolds, Assistant Chief Aurist, Paducah, Ky.

6. "A Case of Tubercular Peritonitis, Apparently Cured by Intra-Peritoneal Injections of Pure Oxygen"—By L. B. Hudson, M. D., Assistant Chief Surgeon, Hattiesburg, Miss. Discussion opened by Dr. W. H. Wilder, District Surgeon, Birmingham, Ala.

AFTERNOON SESSION.

Reading of the Minutes of the Morning Session.

General business.

7. "Treatment of Simple Contusions and Lacerations"—By I. W. Cooper, M. D., District Surgeon, Meridian, Miss. Discussion opened by Dr. Otis T. Hudson, District Surgeon, Mounds, Ill.

8. "Sudden Disability in Certain Medical Conditions"—By Dr. George R. Herrman, Assistant Professor Medicine, Tulane University, New Orleans, La. Discussion opened by Dr. Charles Louis Mix, Consulting Internist, Chicago, Ill.

9. "Automatic Health Control by Physical Examination"—By Don Deal, M. D., District Surgeon, Springfield, Ill. Discussion opened by Dr. E. G. Thompson, District Surgeon, Memphis, Tenn.

10. "Hernia—Its Treatment"—by C. A. Sheely, M. D., District Surgeon, Gulfport, Miss. Discussion opened by Dr. Darwin Kirby, District Surgeon, Champaign, Ill.

11. "Some Experience with Skin Graft"—By C. P. Brown, M. D., Assistant Chief Surgeon, New Orleans, La. Discussion opened by Dr. F. H. Gunn, Division Surgeon, East St. Louis, Ill.

12. "Management of Compound Fractures"—By J. C. Willis, Sr., M. D., Local Surgeon, Shreveport, La. Discussion opened by Dr. Frank Boyd, Surgeon, Paducah, Ky.

FIRST DAY

Friday, December 3, 1925

Evening Session

Annual Dinner—Buena Vista Hotel

Main Dining Room

7 O'clock P. M.

KEEP MISSISSIPPI IN THE REGISTRATION AREA.

The National Bureau of Census has been talking about Mississippi's Bureau of Vital Statistics. They say that the birth and deaths are not being reported as they should be; that is, there must be some doctors somewhere who are failing in their duty in this respect. It hardly seems necessary to remind a physician that birth registration is necessary "to prove the child's age and citizenship, his right to attend school and to work, to inherit property, to hold office, to secure passports for foreign travel, and to prove a mother's right to a widow's pension"; but still the fact remains that more than ten per cent of the births in this state are not being reported. It is not likely that a man who is indifferent to such of his duties may have much pride in his state, but let us hope that the doctors who have been derelict in this respect will rally in an effort to save Mississippi's name. Let us keep her in the registration area.

It has been suggested by a number of physicians that in many parts of the state a great many confinements are managed by negro mid-wives. It is possible that some of the mid-wives have been warned not to practice unless they improve their ways and if they have disregarded this warning they are naturally afraid to hand in a birth report.

MICROBE HUNTERS.

Heywood Broun says of de Kruif's work that it is one of the most exciting that he has read in many days, that it is full of blood, thunder, and heroes. Not only will this brilliant book prove of interest to every physician because of its witty biographical sketches of Pasteur, Kitch, Theobald Smith, Walter Reed, to mention only a few; but it ought to go a long way toward putting microbes on the map for doubting Thomases among the laity in general and in particular for those adherents of the various so-called cults. Many a physician would do well to suggest that his patients read this work. It is inconceivable that anyone, reading of the steps taken by these heroes of science to prove the existence of these little beasts and how they do their damage, can fail to be convinced.

BEWARE OF THE "COLD"!

This is the season when we like to huddle about the fire, to keep out of drafts, and to keep our feet dry. People are always telling us that winter is the season of colds but they do not explain why it is that colds increase in about the same ratio and about the same time in Florida and California as in the Dakotas and bleak New England.

Let us teach our patients to keep themselves warm and comfortable, if they wish, but to avoid crowds whether at the theater, church, or in places of business, as well as to keep away from the individual who is spraying infectious bacteria from his nose and throat as he talks, coughs, or sneezes.

The medical profession so far has not been successful in doing anything to prevent respiratory diseases and probably will not do so until they can teach that a cold is infectious and that the chilling of the body surface does not play an important part in lowering one's susceptibility.

At the regular meeting of the Warren County Medical Society, December 14, 1926, it was decided to call the new consolidated society. The Issaquena-Sharkey-Warren Medical Society and the following officers were elected:

President—Dr. Edley H. Jones, Vicksburg.

Vice-Presidents—Issaquena, Dr. W. H. Scudder, Mayersville; Sharkey, Dr. A. K. Barrier, Rolling Fork; Warren, Dr. J. L. Clark, Vicksburg.

Secretary and Treasurer—Dr. Leon S. Lippincott, Vicksburg.

Board of Censors—Dr. A. Street, Vicksburg; Dr. Williard H. Parsons, Vicksburg; Dr. G. P. Sanderson, Vicksburg.

Delegates—Dr. Leon S. Lippincott, Vicksburg.

The program was as follows:

1. "The Life of Louis Pasteur"—Dr. Percy Wall, Jackson.
2. "Some Local Aspects of Malaria"—Dr. Leon S. Lippincott, Vicksburg.

MISSISSIPPI SCHOOL AND COLONY FOR THE FEEBLEMINDED.

This letter is worthy of the attention and untiring efforts of every doctor in the state of Mississippi. It is hoped that every man will do the utmost to help this good cause.

"As a practitioner of medicine and guardian of the public health you undoubtedly appreciate my effort in behalf of the work with the feeble-minded of our state. Certainly you are in favor of early recognition of these unfortunates and the provision of proper treatment and segregation, as a means of reducing our incompetent citizenship, and failure, due to lack of intelligence. Feeble-mindedness is the mother of pauperism, and also is responsible

for much of the crime, prostitution and general human failure, costing huge sums.

"In the first place these defectives should not be allowed to marry and reproduce their kind. You are probably aware that a building program for the institution has not been provided. We have now been here, a mere camp, six years. Our population is 134, with a waiting list of 460, who can not be admitted until buildings and equipment are provided.

"I have a greater vision of the work than merely providing an adequate institution. We should have mental examination of the retarded school children, and I expect to have a bill prepared to this end, for passage, at our next session of the legislature. Mental clinics in our schools will enable us to recognize and control the majority of children who are to become future problems to society. Such a procedure can be launched with comparatively small expense, and in the course of a few years the state would have a census of all the defectives within its borders. The psychopathic and delinquent children should also be included in the mental clinics.

"I am appealing to you, as a man of influence in your community to assist me to build public sentiment for this work, which is both one of love and science. These unfortunates should have consideration and in return for our expense and effort we shall reap an immense reward through a more intelligent and productive citizenship.

"I hope you may find time to talk to your citizens and clientele about this matter, and also make it an issue in the coming political campaign; especially with candidates for governor and the legislature. The last legislature gave us a small building for females. It will house about 50, and we have the applications of more than 200. Doctor, I will appreciate your influence in this matter. We who have normal children are not mindful enough of our unfortunate neighbors, who are borne down with defective children and need our help.

"As we look into the glow of our Yuletide fires, with our normal healthy children about us, we should pause and give thanks that we are spared the lot of caring for one or more defective children.

"With best wishes for a merry Christmas, and a happy New Year, I am,

"Fraternally yours,

"H. H. RAMSAY, M. D., Supt."

BOOK REVIEWS

Ears and the Man: By Annetta W. Peck, Estelle E. Samuelson and Ann Lehman. Philadelphia, F. A. Davis Co. 1926.

A book fresh from the field of experience in a new phase of social work. Full of clear-cut, practical and adaptable recommendations. It is a real text book and should make an appeal and be of value not only to the otologist but to the social worker, deafened or otherwise, the general physician, boards of education and educators, and to all deafened people who are striving to rise above their obvious limitations.

W. MARVYN JOHNSON, M. D.

Pathology and Treatment of the Inflammatory Diseases of the Nasal Accessory Sinuses: By M. Hajek. 5th ed., rev. and enl. 2 v. St. Louis, C. V. Mosby Co. 1926.

These two volumes are indeed a most worthy contribution to the literature on sinusology. The excellent translation is rendered in a style which is clear and concise and leaves nothing to the imagination.

The first volume includes the embryology, normal and pathologic anatomy and the latest theories on the physiology of the accessory sinuses. The chapters on pathogenesis and general pathological anatomy are most instructive. The diagnosis and surgical treatment of each group of sinuses are described in detail and the author enters into a discussion on the relative merits of the various operations in vogue. Brief mention is made of the American methods and in rare instances are any of the American surgeons commended.

The chapter on complications following surgical intervention is well worth reading. In spite of the sarcasm which crops out, these two volumes as well worth reading for they comprise a storehouse of knowledge in their special field.

F. E. LEJEUNE, M. D.

Text-Book of Materia Medica for Nurses: Compiled by Lavinia L. Dock, R. N., and Jennie C. Quimby, R. N. Eighth edition, rewritten and revised according to the standard curriculum. New York and London, G. P. Putnam's Sons. 1926.

The revised edition of this well-known textbook will simplify somewhat the study of materia medica by student nurses. The authors have drawn upon their large experience as teachers in making the revision. Of those drugs having similar quali-

ties the less important have been omitted from consideration and emphasis has been placed on practical study of medical preparations of drugs. To familiarize the student nurse more thoroughly with the actions of the different drugs, a clearer subdivision is followed, as outlined in its standard curriculum of instruction for schools of nursing. The best and latest authorities and books of reference have been followed in preparing the text.

FRANCIS M. MUNSON, M. D.

Fundamentals of Dermatology: By Alfred Schalek, M. D. Philadelphia, Lea & Febiger. 1926.

The author has elected in this small volume of 228 pages to give a treatise of dermatology a bit different from the usual text, in that he lists the disease in alphabetical arrangement. The paragraph, dermatological aphorisms, are very well arranged and the information contained is to the point.

The roentgen-ray as a therapeutic agent is dealt with supra-cautiously by the author. In the section on syphilis, so little mention is made of salvarsan dermatitis that the reader completely overlooks it as a hazard to be encountered.

The author is a very conservative writer and as the treatment of most skin disease calls for conservation, therefore, if conservation alone is impressed upon the reader this volume deserves its place upon the book shelf of the medical library.

M. T. VAN STUDDIFORD, M. D.

The Human Body: By Marie Carmichael Stopes, Dr. Sc. Dr. Ph. With 53 illustrations and color plates. New York and London, G. P. Putnam's Sons. The Knickerbocker Press. 1926.

Dr. Stopes' book is a compendium of human anatomy and physiology intended for the intelligent lay reader. She handles the various topics in a scientific manner that conveys the information intended. The text is free from pedantry and prudery and could be pursued with advantage by non-medical workers in the field of social hygiene.

FRANCIS M. MUNSON, M. D.

Surgical Anatomy of the Human Body: By John B. Deaver, M. D., Sc. D., LL.D., F. A. C. S. Vol. 1, 2d edition. Philadelphia, P. Blakiston's Son & Co. 1926.

Revision of this well-known work follows the original edition after an interval of twenty-five years. Each of the three volumes of the present

edition embraces surgically related regions, an arrangement of value for practical reference. The first volume is devoted to the head. Volume two deals with the upper extremities, neck, shoulders, back, and lower extremities. Volume three covers the chest, pelvis, and perineum.

Volume one only is available to the reviewer. Its contents are grouped under the following headings: Surface Anatomy of the Cranium; Brain; Face; Mouth; Pharynx; Larynx; Nose; Orbital Contents; Ear. Treatment of the material under each heading conforms to the natural approach in dissection, and instruction for dissection are added wherever the need is indicated. Practical considerations are placed in immediate company with descriptions of individual structures and limited regions. Typographical aids to emphasis, both in organization and type styles, have been resorted to with good effect. There are one hundred and twenty-four plates, mostly excellent. Old terms are given preference, unfortunately, although the parenthetical insertion of BNA equivalents partially offsets the objection.

The book is avowedly "not alone an adjunct to, and application of descriptive anatomy, but rather the bridge between the study and practice of surgery itself." It should be of more particular value to the practitioner as a reference, rather than as a formal text. Regrettably, the revision has not been brought to date throughout in matters concerned with the nervous system, its value as a new edition being accordingly lessened.

HAROLD CUMMINS, M. D.

Bi-Polar Theory of Life Processes: By George W. Crile; ed. by Amy F. Rowland. New York, The Macmillan Co. 1926.

A scholarly treatise for the research worker, well supported by experiments in proof of hypotheses. Such a work is necessarily outside the field of the general practitioner or specialist, but it is interesting in its display of unusual material, a fact characteristic of the author's work.

P. T. TALBOT, M. D.

The Thyroid Gland: The Beaumont Foundation Lectures, Series Four. Auspices of Wayne County Medical Society: By Charles H. Mayo, M. D., and Henry W. Plummer, M. D. St. Louis, The C. V. Mosby Company. 1926.

These lectures are refreshing dissertations on a subject that is not always presented in an interesting manner. They present a short but illuminating epitome of the anatomy, physiology, and development of the thyroid gland and the parathyroids and of the etiology and bacteriology of goiter.

The biologic chemistry of the thyroid is dwelt upon and the cultural side of the subject, its place in medical history, etc., is not neglected. The bibliography will be of value to the busy worker who cares to pursue the matter further.

FRANCIS M. MUNSON, M. D.

Hay-Fever and Asthma: By Ray M. Balyeat, A. M., M. D. Illustrated. Philadelphia, F. A. Davis Co. 1926.

The purpose of the book seems to be in line with the advanced idea of supplying the laity with information on medical subject. It is profusely illustrated and the whole matter is very clearly and cleverly presented.

The general practitioner will find the book useful as it presents practically all the accepted facts on hay-fever and asthma but not much detail is given for treatment. In the critic's opinion adrenalin is given a rather prominent place.

The chapters on indirect ventilation, on pollen in dust and snow are good. The author also brings out many useful points: he disapproves of change of climate and urges that particular attention be paid to croup of children, as he considers this in many instances a forerunner of hay-fever, asthma in later life. He insists on treatment being continued for a period of four years.

NARCISSE THIBERGE, M. D.

The Principles of Anatomic Illustrations Before Vesalius: By Fielding H. Garrison, A. B., M. D. New York, Paul B. Hoeber Inc. 1926.

In this book the author has brought before us the review of the field of anatomy up to and including some of the work of Leonardi di Vinci, whom he speaks of as being the founder of artistic (morphological) and physiological anatomy. His many valuable plates stimulated the reader to continue to see what he may find next.

WILLIAM C. SMITH, M. D.

The International Medical Annual: A Year Book of Treatment and Practitioner's Index. Forty-fourth year. New York, William Wood & Company. 1926.

The forty-fourth volume of this famous annual retains all the valuable features of the preceding ones. It is the same practical book that has saved time and money for two generations of doctors. In the introduction a brief account is given of the general drift of medical work published in the past year, with particular attention to successful treatment. All the new means of early diagnosis are reviewed, and new applications of the prin-

ciples of preventive medicine are discussed. The contributors include some of the most distinguished medical men in the English-speaking world.

FRANCIS M. MUNSON, M. D.

Surgical Treatment of Goiter: By Willard Bartlett, A. B., A. M., M. D., D. Sc., F. A. C. S. Illus. St. Louis, C. V. Mosby Co. 1926.

In this monograph reference is made only to the important fundamental considerations involved in the goiter problem; the many new truths concerning the thyroid and their clinical applications are also forcibly brought out.

The essential factors in the treatment of goiter, especially the toxic type, are individualization and realization that it is not a one-man job, hence the necessity for a supporting group of specialists—internist, laryngologist, roentgenologist, pathologist and surgeon.

The chapter, Heart in Goiter, is timely for it shows the role played by the heart in various types of goiter; also that cardiac symptoms are very frequently present and that cardiac failure is one of the principle causes of death in goiter patients.

The chapter, Details of Technic, is inadequate; the illustrations are good showing in minutest detail the many minor points. However, the use of calipers to determine the length of the intended "mid robbon muscle split" seems superfluous.

Attention is directed to the many complications peculiar to goiter surgery; a thorough and lengthy discussion—as an aid in their prevention as well as a remedy—is entered into. This in itself is well worth the time of any one interested in goiter surgery.

From the reviewer's point of view, it seems that the author has accomplished his mission, for he states that "this monograph is intended as a study in detail of the elaborate procedure involved today in the preparation, operation and after care of the goiter patient;" that "it is written in the hope that it may appeal to the well-trained young general surgeon who is inclined to broaden his experience in the special field of thyroid surgery and if it adds anything to the safety and comfort of his patients, his mission will have been accomplished."

PAUL G. LACROIX, M. D.

Rational Gland Therapy for Women, Particularly in Relation to Menstruation: By I. Wanless Dickson, M. D., F. R. C. S. New York, Paul B. Hoeber. 1926.

A very interesting thesis on the proper management by endocrine therapy of various symptoms derived from a disturbed balance of the endocrinal

interrelationship. The author lays emphasis on the cause of failure to get results because of lack of thorough analysis and the exhibition of the proper gland therapy. The failure to prescribe proper dosage is another cause of failure to obtain results. Though gland therapy is still in its infancy, much benefit may be derived by those who suffer from endocrinal disturbance, if the physicians in attendance would only go into the symptoms in detail and have a clear understanding of the case in question.

A. JACOBS, M. D.

PUBLICATIONS RECEIVED.

P. Blakiston's Son & Company, Philadelphia: "Principles and Practice of Oral Surgery," by S. L. Silverman, D. D. S., F. A. C. D. "Recent Advances in Physiology," by C. Lovatt Evans, D. Sc., M. R. C. S., L. R. C. P., F. R. S.

Paul B. Hoeber, Inc., New York: Pneumoconiosis (Silicosis), by Henry K. Pancoast, M. D., and Eugene P. Pendergrass, M. D.

G. P. Putnam's Sons, New York and London: "A Sound Economic Basis for School of Nursing," by Mary Adelaide Nutting, R. N., M. A.

Wm. Wood & Company, New York: Medical Record Visiting List, 1927.

C. V. Mosby Company, St. Louis: "Practice of Preventive Medicine," by J. G. Fitzgerald, M. D., L. L. D., F. R. S. C. "Shell Shock and Its Aftermath," by Norman Fenton, Ph. D. "Diseases of Women," by Harry Sturgeon Crossen, M. D., F. A. C. S. "Physiology and Biochemistry in Modern Medicine," by J. J. R. MacLeod, M. M., LL.D., D. Sc. F. R. S.

J. P. Lippincott Company, Philadelphia and London: "Human Pathology," by Harold T. Karsner, M. D.

F. A. Davis Company, Philadelphia: "Practical Surgery of the Joseph Price Hospital," by James William Kennedy, M. D., F. A. C. S.

Government Printing Office, Washington: "The Medical Department of the United States in the World War," Volume VI, Sanitation.

Miscellaneous: "The Rockefeller Foundation," Annual Reports, 1925. Report on Third International Congress of Military Medicine and Pharmacy, Paris, April, 1925, by Commander William Seaman Bainbridge, M. C.

REPRINTS.

"The Study of Rectal Diseases in America," by J. F. Montague, M. D., F. A. C. S., New York. "Visions directe dans son oeil des globules du sang et de leurs mouvements," by Dr. E. P. Fortin. "Les Vrais Capillaires," by Dr. E. P. Fortin. "Capillaires et Capillaroscopie de la Retine," by Dr. E. P. Fortin.

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X-RAY EXAMINATION OF THE VISUALIZED GALL BLADDER.*

LEON J. MENVILLE, M. D.,
NEW ORLEANS.

The study of the gall bladder by means of the X-ray has been a subject of general interest since early in the history of roentgenology. At first, efforts were directed towards the demonstration of gall stones on the X-ray plate. Beck⁽¹⁾ is credited as the first worker to make such a demonstration. Subsequent to Beck's accomplishment, reports of the demonstration of gall stones were occasionally published. Following the reports of visualized gall stones came the announcement of a visualized gall bladder. These reports became more frequent with improvement in technique. In such cases the gall bladder contained inspissated bile, or its walls were thickened or calcified, although occasionally a shadow of a normal gall bladder was visualized. As a general rule, the routine examination of the gall bladder yielded negative results, even though actual pathology may have existed. The work of Pfahler,⁽²⁾ Cole,⁽³⁾ Case,⁽⁴⁾ George and Leonard,⁽⁵⁾ and others, stimulated further interest in the X-ray examination of gall bladder. The studies of George and Leonard consisted in making X-ray diagnosis of gall bladder disease by indirect signs. These studies occasioned much interest and often valuable information was obtained by these methods. It was found,

however, that these signs could be found in other conditions and therefore the method could not entirely be relied upon as a means of absolute diagnosis. A negative X-ray report for gall bladder disease was valueless, as it did not mean the absence of gall bladder pathology and a positive report was at times given when the gall bladder was normal. Many negative X-ray reports were being made and at operation a large number were proven positive and vice versa. The unreliability of the methods of X-ray examination of this structure, eventually led almost to an abandonment of this procedure as a diagnostic aid. Radiologists appreciated the necessity of some improved method which might permit of more accurate observations upon the condition of the gall bladder. It was realized that if the gall bladder could be visualized, as could be accomplished for the alimentary and urinary tract, valuable information could of course be obtained. The difficulty arose in devising some method whereby such visualization could be produced.

The announcement two years ago by Graham and Cole⁽⁶⁾ that they had discovered a unique method whereby the gall bladder could be visualized roentgenographically, stimulated universal interest. Roentgenologists realized at once that such a discovery permitted of a broad scope of its application in the study of this heretofore hidden structure. At first the sodium salt of tetrabromphenolphthalein was employed, but later it was replaced by the sodium salt of tetraiodophenolphthalein,

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

which gave a denser shadow and did not require as much of the dye for diagnostic purposes. The tetrabromphenolphthalein depends upon its bromine content to produce a shadow with the X-ray. The atomic number of bromine is 80 and its approximate absorbability rate to the X-rays is 1041.329. In the instance of the tetraiodophenolphthalein, it is the iodine content that casts a shadow. The atomic number of iodine is 127 and its approximate absorbability rate is 6026.432, yielding thereby a shadow 6 times greater than bromine. Again there is 47 per cent of bromine in the tetrabromphenolphthalein, while in the tetraiodophenolphthalein the iodine content is 59 per cent. It can be appreciated therefore that the tetraiodophenolphthalein casts a much denser shadow and it will produce sufficient visualization with less of the dye for diagnostic purposes. It is for these reasons that tetraiodophenolphthalein is employed at the present time.

There are several methods used in administering the dye in cholecystography. Of primary importance is the intravenous method which is by far the most accurate affording definite and reliable information. This is the method of choice and should be employed whenever possible. The next method is the introduction of the dye per os. This oral method is fast becoming the method of most frequent use because of the simplicity of its application. It should be remembered, however, that the information elicited is less by this means than by the intravenous route. It is the method of choice only when the intravenous route is contra-indicated. In the oral method, however, we obtain very valuable information about the gall bladder that is of important diagnostic value. This is especially true in gall bladders that fill normally wherein the outline of the shadow is clear and the rapid reduction of the shadow during digestion is demonstrated. In such cases the likelihood of gall bladder disease is very remote. In the cases in which either no shadow or only an imperfect one has

been obtained by the oral administration a check should be made by the intravenous route. This does not apply where the patient has vomited the capsules or they have been undissolved, in which instance the test should be repeated. The intraduodenal and rectal methods have been tried but are not in common use.

From a diagnostic standpoint, when the technique employed is correct, the following deductions can be drawn: (1) A non-visualized gall bladder is strongly suspicious for gall bladder disease. (2) A gall bladder that is slow in emptying without response to digestion is indicative of abnormal physiological function. (3) A small contracted, slow emptying gall bladder with poor concentration is highly suggestive of pathology of this structure.

The causes for non-visualization are as follows: An obstruction of the cystic duct either by stone, angulation, bands of adhesion or a swollen mucous membrane. The content of the gall bladder may be such as to fail to mix readily with the dye impregnated bile. We refer to thickened mucus or inspissated bile. The walls of the gall bladder may be so thickened and the lumen so contracted that there is not sufficient bile retained to cast a shadow. The gall bladder may be so large or the amount of the contents so great (as in hydrops) that the opaque bile is diluted to such an extent it does not outline the gall bladder satisfactorily. The liver functions may be so poor as to delay or entirely prevent a sufficient amount of the impregnated bile from entering the gall bladder.

In the dye method of examining the gall bladder, the dye is taken up by the blood stream and carried to the liver and impregnates the bile.

The dye method of examining the gall bladder with the X-ray permits cholesterol stones to be visualized. On account of the low absorbability rate of these types of stones, we have heretofore been unable to

obtain their shadows by radiological methods. Their absorbability rate is about 98.06, which is less dense than the liver shadow. In these cases through the modern dye method the opaque bile surrounds the stones in such a manner that they can be recognized by negative shadows, that is to say, that a rarefaction of the shadow cast by the dye occurs through its displacement by such stones. Previous to the advent of the dye method of visualizing the gall bladder the percentage of reported gall stones with the X-ray was from 30 to 40 percent, and none of these were of the cholesterine type. This percentage has been greatly increased and now includes all types of calculi.

The visualized gall bladder has been the subject of experimental studies which have brought forth many interesting facts. Among these is the work of Silverman and Menville,⁽⁷⁾ which has shown that non-surgical biliary drainage produces a reduction in the size and alteration of the shape of the visualized gall bladder. This work has been confirmed by Comstock,⁽⁸⁾ Eberhard,⁽⁹⁾ Sasman, Whitaker and Edson,⁽¹⁰⁾ and Whitaker.⁽¹¹⁾

As regard the recent method of Graham and Cole for visualizing the gall bladder reports are coming from all parts of the country as to the success of this method in medical diagnosis. Moore⁽¹²⁾ reports that cholecystography has been done 552 times at the Barnes Hospital, by both the oral and the intravenous methods. One hundred and five of these were submitted to laparotomy, 82 of which required cholecystectomy. In the remaining 23 instances other operations were performed at which the gall bladder was observed and the condition noted to be normal. In these cases the surgical operation confirmed the X-ray diagnosis in 95.5 percent of the 105 cases. Brans⁽¹³⁾ reports that in 100 cases of oral administration of the dye, 43 of these were proven correct at operation and 2 were incorrect. The remaining 55 were not operated upon, but in these the clinical and X-ray diagnosis agreed. Carman⁽¹⁴⁾ of the

Mayo Clinic, in an early report, states that of 39 patients primarily subjected to this method, 34 showed evidence of gall bladder disease. All of these were subsequently operated upon for pathology of the gall bladder.

CONCLUSIONS.

(1) A normal gall bladder may be visualized with the X-ray through the method of administration of the sodium salt of tetraiodophenolphthalein.

(2) This method of cholecystography is a safe procedure in medical diagnosis.

(3) Its employment in gall bladder examination gives correct conclusions than was hitherto possible.

(4) Cholesterol stones are visualized only by cholecystography.

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DISCUSSION.

Dr. Lucien A. Fortier (New Orleans): Dr. Menville has covered this subject very thoroughly and it is hard to add anything new to what he has said. We routinely use the pills first and if the examination is satisfactory we don't use the intravenous dye. If it is unsatisfactory then we use intravenous administration.

Some of the older signs of gall bladder disease as shown up by the x-ray have been fallacious. The pressure on the duodenum from the gall bladder unless very deep was found not to be due to gall bladder disease. If a gall bladder does not show a shadow after the administration of pill or intravenous dye injection, that gall bladder is considered now to be abnormal. This is a great step forward in the diagnosis of gall bladder disease.

Dr. J. A. Danna (New Orleans): A year or so ago I read an article in one of the Italian journals in which a man named Milani reported using sodium bromid. He stated that in the tetrabromophenolphthalein what did the work was the bromine element and that the most harmless compound of bromine was sodium bromid, which he used in thirty gram doses, and he showed some very good pictures as a result.

I have been trying to get somebody else in New Orleans to tell me that using thirty grams, which is approximately one ounce of sodium bromid, would be a safe thing to do but I haven't found anybody who would and I haven't yet had the courage to use it, but I would like to ask Dr. Menville what he thinks of it.

Dr. H. E. Bernadas (New Orleans): I would like to ask whether when the dye by mouth causes vomiting it will be safe to give that same dye intravenously.

Dr. Daniel N. Silverman (New Orleans): The administration of any substance by mouth is a very uncertain factor. For years we have been giving the salol coated pills of ipecac in the treatment of amebic dysentery, and we find that certain individuals will dissolve and absorb them without any trouble and others will pass them on without any dissolution of the pills or absorption. I have found that reactions were as persistent by the administration of these dyes by mouth and

just as severe as they are by the intravenous administration.

Only occasionally have I had reaction such as diarrhea by the intravenous administration of either the bromid or the iodid salt. However, the intravenous administration is attended by considerable danger. The systemic reactions are not so severe but it isn't very hard to get just the smallest quantity of the salt outside of the vein and if you do the administration should be stopped immediately because there is a local reaction, a venous thrombosis, and I have seen considerable sloughing that worried me quite a bit.

Up to the present time the use of these dyes for the study of gall bladder, I believe, is limited to the study of the gall bladder function. The size, shape, position and emptying time of a gall bladder can be studied by the way the gall bladder fills up with the dye, but if a shadow is not cast, especially in a diseased condition and especially when administered by mouth, I attach no importance to it unless, as Dr. Menville has said, an intravenous administration has been made.

Of the three radiologists, principally Dr. Menville, who did the original experimental work with me, I have found no difficulty in getting shadows of a normal gall bladder.

Dr. N. F. Thiberge (New Orleans): I would like to ask Dr. Menville a question. He spoke of the contraindication for the dye. In closing his discussion I would like to have him mention some of the principal contraindications so that the general practitioner can be posted about the drug.

Dr. Menville (in closing): I particularly want to thank my colleague, Dr. Fortier, for his very kind remarks. Dr. Fortier's work on the gall bladder at the Hotel Dieu is well known, and it is recognized by the medical profession in the City of New Orleans as being among the ablest work being done at this time.

In answer to Dr. Danna, it is true that the bromine molecule in a chemical substance, is what casts the shadow; as to whether sodium bromide is excreted by the bile, I would have to ask Dr. Silverman that. I don't know. However, there were two workers at the Mayo's two or three years ago, introduced sodium bromid intravenously in a dog and were very much surprised to find that it was excreted by the kidneys.

In answer to Dr. Bernadas as to vomiting, I don't believe there would be an special reason to believe because a patient has vomited the pills he would be an unfit subject for the intravenous injection. That would only indicate that the capsules had dissolved in the stomach instead of in the

intestine. Occasionally we have patients who are intolerant to the capsules but by repeated administration we usually are able to obviate this, particularly by administering some alkaline previous to the administration of the dye.

Dr. Silverman's remark is very much to the point. The intravenous route is, of course, as mentioned, very highly desirable. There are certain technicalities attached to this method. I don't think that the intravenous route will ever become a general routine. It requires certain special technic in the hands of men who are more or less familiar with the intravenous use of medication.

In answering Dr. Thiberge, I don't know of any fatality or death that has yet been recorded directly attributable to the administration of the dye. Severe cardiac lesions I believe are now understood as being conditions contraindicating the use of intravenous administration.

ANALYSIS OF POST-OPERATIVE MORTALITY AND POST-OPERATIVE MORBIDITY IN GALL BLADDER DISEASE.*

MAURICE J. GELPI, M. D.,

NEW ORLEANS.

In order to check up on the gall-bladder work of my service and with a view to improving it, my associates, Drs. Rateau and Davidson, and myself, undertook a study of the records of four hundred and seventy-six consecutive cases. This represents the total number of gall bladder operations performed in all services at Charity Hospital during a period of ten years, extending from 1914 to 1925. A similar comparative study was also made simultaneously of seventy-three consecutive cases from the service in which we are particularly interested and occurring during part of the same period. The revelation was rather startling and in certain particulars almost shocking, but nevertheless, most illuminating.

The study was directed especially to an analysis of post-operative deaths and to the

making of certain observations in connection with the comparatively large number of individuals not completely and permanently relieved by operation. Incidentally, a certain number of interesting facts were noted.

In the total number of cases studied there were one hundred and seventy-four (174) males and three hundred and two (302) females. One hundred and seventy-three (173) cases had stones and twenty-six (26) had had typhoid fever. There were only seventy-eight (78) cases recorded as acute and the balance of three hundred and ninety-eight (398) were classified as chronic. Ether alone or with nitrous oxide were the predominating anesthetics. Ethylene gas and splanchnic anesthesia were used in but few instances during the period covered. Incidental appendectomy did not affect the mortality to any appreciable extent, as in 137 cases the mortality was only 11.67%.

Cholecystectomy was done two hundred and ninety-six (296) times with a mortality of 16.21%.

Cholecystostomy was done, one hundred and eighty (180) times with practically the same mortality 16.11%.

Of the seventy-eight (78) cases classified as acute, twenty (20) died, making a post-operative mortality for acute cases of 25.61%. So that over one-fourth of the acute cases succumbed.

In three hundred and ninety-eight (398) chronic cases, fifty-seven (57) died, making a mortality of 14.32% for chronic cases, irrespective of the type of operation performed.

Of the total cases operated, seventy-seven (77) died. So that, including cases of all types, whether simple drainage was done or whether the gall bladder was removed, we have a total post-operative mortality of no less than 16.17%.

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

These figures proved to be far beyond expectation, so that even though certain conditions prevail at Charity Hospital which tend to explain this high mortality, the fact still remains, and should serve as an object lesson, not to rely upon individual impressions for gauging post-operative results. In analyzing this high mortality, one of the conditions referred to, which stands out as an important element for consideration, is the fact that, while the head of the service is technically responsible for all deaths in his service, all operations are by no means performed by him alone. Since the assistants are graded according to length of service and therefore according to experience, the personal equation figures very prominently in the production of the mortality. Not that this is by any means the only factor. For example, every large charitable institution is always a clearing house for advanced pathology, and this also inevitably plays a part in increasing mortality. So that without considering anything else, the realization of these facts alone tends to minimize considerably the rather disconcerting figures. Although by no means entirely satisfactory either, individual study of the smaller group of cases revealed results in some respects considerably less humiliating.

In the series of seventy-three consecutive cases from service nine, occurring during part of the period covered, the mortality for cholecystectomy was 5.45% against 16.21% in the larger series. On the other hand however, though cholecystostomy was done only eighteen times, the mortality was 27%. This mortality can possibly be accounted for by the fact that only acute cases are drained in the service, hence these cases represent the worst operative risks encountered.

In the cases classified as acute, the mortality was 12.5% as against 16.38% in the larger series. In chronic cases the mortality was 10.52% as against 14.32%. The gross mortality for all types of cases, irre-

spective of the type of operation, was 10.95% as compared with 16.17% in the larger series. But even this is by no means entirely satisfactory. So that the question of the cause of death naturally suggests itself for scrutiny.

Various conditions are assigned as to the cause of death, chief among which are surgical shock, post-operative hemorrhage, sepsis, myocarditis, diffuse peritonitis, and acute nephritis. In studying the individual deaths, one is struck by the fact that a number of cases were the victim of too much operation. One of these cases had a cholecystectomy and coincidentally excision of a urethral caruncle, anterior colporrhaphy, amputation of the cervix, perineorrhaphy, oophorectomy and appendectomy. This patient was said to have died of shock.

This brings up the question as to what can be done to diminish post-operative mortality. Closer attention to pre-operative study and preparation suggest themselves for serious consideration. More careful thought to the selection and administration of the anesthetic might prove of inestimable value, particularly in institutions where all the anesthetists are not experts. Under these circumstances especially, more frequent selection might possibly be made of splanchnic anesthesia. Finally, great improvement might be expected from more careful attention to the development of technical skill, not only from the standpoint of operative surgery, but also in the handling of the patient both on the table and post-operatively. This includes the determination of the CO_2 combining power, coagulation and bleeding time as well as the exercise of judgment in selection of the operative procedure.

In this connection also, too much stress cannot be laid on the importance of operating by sight and not by touch alone. This means the making of a liberal incision. The suggestion of Crile to avoid undue chilling of the liver and other viscera and to make provision for retaining the body heat both

during and after operation, give food for thought. In the cases where drainage is considered compulsory as a primary procedure, post-operative adhesions from bile leakage might be avoided by the use of a supplementary, tubular, soft-rubber-tissue drain, incorporating within itself not only the gall-bladder drain, but the joint between the drain and the gall bladder, as well as the fundus of the gall bladder itself.

The cases of drainage that do well are those where the drainage is prolonged. This means inevitable necrosis and leakage at the point where the tube is fixed to the gall bladder and consequent diffusion of bile with formation of adhesions. This leakage is caught by the supplementary tubular drain. It might be stated that this method of drainage has been in use for some time but not long enough to prove its efficiency at reoperation. Your attention is next called to the problem of post-operative morbidity in gall bladder disease.

While the record of this series of cases does not furnish us complete, accurate data as to the ultimate results obtained by operation, certain deductions may be drawn from the available material. It is generally conceded that a very considerable number of cases operated upon for gall-bladder disease are not permanently and completely relieved of symptoms. What is the explanation of this? The answer lies in a study of the complications of gall-bladder disease more or less directly referable to the biliary tract especially. Of the total number of cases operated upon in the series no less than sixty-nine (69) or nearly fifteen (15) percent, were left with a permanent, pathological residue beyond the reach of surgery. So that, while it might have been perfectly justifiable to drain or remove the diseased gall bladder, in either instance, a limited operation was performed for a ramifying, complicated and intangible pathology. In other words, the simple drainage or removal of the gall bladder alone cannot be expected to give permanent relief of all digestive symptoms when there

are still remaining such pathological abnormalities as, extensive adhesions involving the stomach, liver, and colon; cirrhosis of the liver; extensive colongitis of long standing, with or without common duct obstruction; chronic pancreatitis, and similar conditions representing more or less permanent damage not amenable to surgical intervention. Analysis of the biliary complications in the group of cases studied bears this out very strikingly.

Furthermore, in this study there were found no less than 30% of cases with other gross pathological entities not connected with the biliary tract, yet capable in themselves of producing serious symptoms. As examples of this might be mentioned, extensive adhesions, tuberculosis, uterine myomata, malaria, intestinal parasites, active syphilis, chronic nephritis, colitis, and a long list of others. So that, from this series at least, almost 50% would be expected to continue to be sick, to a certain degree, in spite of the gall bladder operation.

What is the lesson to be drawn from these observations? When the direct, complete eradication of the pathology is admittedly beyond the reach of surgery, we are compelled to give serious consideration to prophylaxis.

Prevention then of the permanent, pathological damage should command our attention. One practical way of putting this idea into execution, lies in a vigorous opposition to prolonged delay in operating, not only for gall bladder disease, but also for appendicitis. The early removal of the primary infectious focus, before the onset of cirrhosis or extensive biliary damage is the only means of cutting down this fifteen percent that we know, cannot be cured. This is not a plea for indiscriminate operation for pseudo-appendicitis or half-studied cases of gall bladder disease. Reference is made only to cases properly observed in which the diagnosis is unquestionable. In the other type of cases with independent

pathology, already referred to, attention of course should be focused directly on the intercurrent condition before promising the patient complete relief. A clear understanding with the patient as to just how much is to be expected from each surgical procedure will prove of value.

To summarize, then, the salient points of this study, the following should be noted:

1. The post-operative mortality in gall bladder is too high in spite of certain extenuating conditions.
2. This high mortality is certainly amenable to improvement.
3. Incidental appendectomy does not affect mortality to any appreciable degree.
4. In certain cases, where there remains extensive, permanent damage in the biliary tract even after operation, no complete, lasting results should be expected.
5. It should not be overlooked that many cases have coincident pathological conditions independent of the biliary tract yet fully capable in themselves of producing symptoms, in spite of the gall bladder operation.
6. To prevent permanent irremediable damage in the biliary tract, operations should not be too long delayed and early removal of intra-abdominal septic foci should be practiced.

DISCUSSION.

Dr. Jos. A. Danna (New Orleans): The subject has been so thoroughly covered that I find myself rather at a loss as to what to say. A few things I was going to say Dr. Gelpi has already said for me. However, I would like to lay stress on a few of the points he has brought out. One is the previous preparation of the patient;—not only the previous preparation of the patient, but a previous attempt at making a diagnosis. I find it harder to make a diagnosis of gall bladder disease than anything else I have to do, and I never operate on a gall bladder case without turning it over to a gastro-intestinal man and letting him play with the case for a while, as it were. Very often that gastro-intestinal man will find other things the matter with that patient that he can play with for a while and I find my-

self congratulating myself that I didn't do a gall bladder operation.

Another thing that I am constantly preaching and that is constantly sounding in my own ears is this: Never put a patient on the operating table with the idea of doing a certain surgical procedure, but remember that that patient is in your hands to get well and for no other reason. Too often a case is scheduled as a gall bladder operation, a probable cholecystectomy. The operator goes ahead, takes the gall bladder out, closes his patient up and sends him back. He has done a beautiful operation but he doesn't know whether he has done anything for his patient or not because he hasn't properly investigated at the time of operation.

I am very sorry to see here that Dr. Gelpi limits the operative procedures that can be done in gall bladder work to two things: cholecystectomy and cholecystostomy. Those are not the only things you can do in gall bladder surgery. I am sure there must have been other surgical procedures performed in the Charity Hospital in that time. The principal thing I would like to call attention to is cholecystenterostomy or cholecystogastrostomy, whichever you choose to do. There are many very sick patients with biliary tract disease in whom the common duct is obstructed in some way. If you take that case and drain it you will get a permanent biliary fistula. If you do a cholecystectomy on him you will kill your patient. Those are cases for cholecystenterostomy, and in a large proportion of gall bladder cases I do cholecystenterostomy.

At a recent Hotel Dieu staff meeting, the question of what was responsible for the mortality in these cases, for the high mortality that some of us got, came up. One of the things that was brought out was the fact that if you traumatize the region of the solar plexus in any way your patient is apt to be seriously shocked. You know the old story about the prize fighter who hit his opponent on the solar plexus. You hit your patient in the solar plexus without the protection of the abdominal wall if you are not careful.

Dr. Salatich brought out the fact that in these cases where you have done traumatism in that region, the administration of adrenalin following the operation is a good thing.

Let me lay stress on one point in the pre-operative preparation of these cases. Very often a patient is sent to a hospital and immediately put on liquid diet. That usually means a few drinks during the day. I make it a point to fill my patients with fluids up to almost the very last minute—up to the hour of the time of the oper-

ation. Your patients should be nourished as late as possible before the operation. We know that the patients who do best following operations are patients who are brought in in an emergency, right out of the street, on whom we do the most serious operations, yet those fellows get well in a hurry and some of the patients who are prepared for a long time ahead of time don't, because they are starved.

Dr. Urban Maes (New Orleans): It was Sir Berkeley Moynihan, I think, who said that statistics could be made to tell anything, even the truth. The startling figures which Dr. Gelpi has presented to us undoubtedly tell the truth, and we should be grateful to him for the time and effort he has expended in this analysis. We are taught to believe that the mortality of gall bladder surgery should not be more than 5 per cent, and yet the Charity Hospital figures are 16 per cent. Obviously we should analyze our results and try to find some explanation of this astounding death rate.

The first and perhaps the most important reason is that a large majority of the cases handled in a public hospital are of the advanced type; that is, the gall bladder disease has been existent so long that marked liver pathology is coincident with it, and recovery is correspondingly more dubious. Again, many of our cases are improperly prepared. We do not study them as we should, and we do not individualize our cases; we operate without any special endeavor to view our patient as an individual and to consider how much surgery he can stand. And lastly, unpleasant as it may be to admit it, poor surgery is undoubtedly responsible for a portion of this mortality, for a certain number of the cases must be done by men who are actually or relatively inexperienced in major surgery.

The particular value of this study will lie in our endeavor to correct the conditions which Dr. Gelpi has pointed out, and a few practical considerations may be mentioned. As I have already said, the preparation of the patient is more important than we are wont to think it is. Careful investigation of the function of the various organs, particularly the heart, kidneys and liver, is undoubtedly demanded before any gall bladder surgery is undertaken. Certain drugs, as we know, should be administered in some instances as a pre-operative routine. Dr. Mayo, for instance, pointed out to us yesterday the value of the intravenous use of calcium chloride and glucose in cases showing marked jaundice or any liver pathology.

The choice of anesthetic is obviously important, and the minimum of trauma during the actual operative act is a desideratum.

If we analyze the causes of death in gall bladder surgery, we find that they fall into certain definite groups. Organic lesions of the heart and kidneys furnish a large number of these cases, and the remedy in this instance I have already pointed out, pre-operative study and preparation.

Deficient liver function is responsible for another group, in which pre-operative preparation will also reduce the mortality. Hemorrhage and shock are other causes of death, in many instances preventable causes. Another group of deaths must be set down as chemical deaths; these are the patients who develop post-operative acidosis, alkalosis and similar allied states, all of them probably due to defective function, and many of them preventable if the proper study were made before operation, and the proper remedies administered to overcome these chemical conditions.

I take exception to the statement made by one of the last speakers that we should never go into a case with a fixed idea of our procedure. I believe that in most abdominal surgery it is a real life-saving measure to operate on an accurate diagnosis, with an accurate picture of the patient's condition, organic function and probable resistance, and with a fairly definite idea of the procedure to be followed. I admit that in many instances conditions within the abdomen may force us to change our minds, but information available before the patient goes to the operating table will in most cases give us a definite basis for our decision to do a cholecystectomy or a cholecystostomy.

Dr. D. W. Kelly (Winfield): I have been practicing medicine for twenty-three years. When I first began practicing medicine I drained my gall bladder cases and my cases were still sick and a few years later they told me they had made a mistake; they should have taken out the gall bladder. They took them out and I still had trouble. My results with the cases I have had operated on are not as good as the statistics. They still come back to me and give me trouble. Only in a very small percentage does the case hold out from the surgical procedure.

I think Dr. Danna hit the keynote when he said before you monkey with a gall bladder case let the gastro-intestinal man monkey with it. I am certainly not referring all my gall bladder cases to the surgeon any more because I find that I am getting better results from internal medical treatment, stimulating the liver, than I do from the surgery. Some of my cases I have operated on.

Dr. C. H. Mosely (Monroe): Gentlemen, we are all interested in this subject and the proper preparation that the gentlemen are speaking of

certainly appeals to people who know anything about liver function, chemical reactions and the calcium reaction of the blood. The proper preparation of a patient in the gall bladder condition sometimes means to let the condition alone.

In surgical debate in Chicago at one time one of the eminent surgeons of the world said, "Eighty per cent of the appendices will get well without operation." The immortal Murphy said: "Ninety-nine per cent of them will get well with an operation at the proper time." The same thing holds in gall bladder surgery. Appendicitis should be operated on immediately. We operate on too many gall bladders in the acute stage.

If a patient's temperature has returned to normal, the liver tenderness is getting better, the feces are taking on their normal appearance, the digestion is getting better, you are getting less amount of gas in regurgitation, it is better to let that patient go and operate some other time. However, you have patients who are on the downgrade. How do you know when they are doing that? Most anybody can tell. If the temperature is up, the gas and the cholemia is increasing and the color is dark, then it becomes an emergency operation. Gall bladder duct, a common duct that is permanently occluded, means emergency surgery. There are so many reasons sometimes that we can tell they are permanently occluded and then they must have emergency surgery.

Of course, everybody knows that the world now is looking to the ultra-microscope, as Dr. Mayo said, and the chemists have learned that you can make gold out of lead and that they can bombard nitrogen and make hydrogen.

If a person gets into the chemistry of the blood and the whys and wherefores of a lot of infections, he is startled and knows that no disease is anything but a manifestation of the warfare that is going on in the blood streams. Someone has said that all local infectious operations are gorilla warfare. A gall bladder might be just locally affected but when it gets into the blood stream it is a naval warfare and that is what takes us out.

Kidney function in any kind of infection must not be ignored. It holds just as true of gall bladder. The liver function in weighing the metabolic process of the body means just as much.

Dr. Emmett Irwin (New Orleans): Gentlemen, Dr. Gelpi is to be thanked for the presentation of this most wonderful paper. It represents a volume of work done in going through the various histories and gathering the data for the preparation of this paper.

It is certainly agreed that the mortality here presented in gall bladder surgery is due to a lack of careful pre-operative study and also a certain amount due to the lack of proper post-operative care of the patients.

In connection with the post-operative care, I might say that I have found something of value in the use of the duodenal tube used immediately following cholecystectomy. It is passed immediately upon the recovery of the patient from the anesthetic and after a little while one will begin to get back the clear bile which we know is coming from the liver itself. When the clear liver bile returns one knows that he has not, during the operation, tied off the common duct, and it allows the surgeon to go to sleep that night with a clear and unworried mind.

There is no doubt but what the anesthetic plays some part, for those patients who are operated upon under local or splanchnic anesthesia respond better post-operatively than those who received a general anesthetic.

I think Dr. Gelpi's paper should be to us a warning to study our cases more carefully pre-operatively, to watch them more thoroughly post-operatively and certainly guard against ruthless gall bladder surgery.

Dr. Gelpi (in closing): First of all, I want to express my gratitude for the extensive discussion.

As regards Dr. Danna's remark about the pre-operative study or "playing" by the medical man or gastro-enterologist, that is a point that we stressed without going into details. The important thing is not to play too long. That is really the point. Whether you call it "monkeying," as someone said, or "playing"—don't do it too long.

I am glad that Dr. Maes took occasion to lay stress again on the pre-operative study. You have to estimate your risk; if you don't you are going to shoot up your mortality inevitably. You can't get around that. Certain ones can stand so much; others can't. It is your business to find out just about how much the individual that you are working on now will stand and then go to it.

I don't feel that the analogy that Dr. Mosely has drawn between the chronic appendix and the gall bladder is correct throughout. I feel a little differently about the appendices. As a matter of fact, many times I remove the appendices because I am afraid not to do it. It is perfectly true that probably a lot of them would get well but I don't know which one is going to do so and which one isn't and a lot of time you remove the appendix because you are afraid of what *might* happen rather than because you see some definite path-

ology on the outside. In addition to that, as you go in you sometimes say: "Well, this is just a simple appendix," and you expect to come out in twenty minutes. Instead, you come out thoroughly exhausted many times after working an hour and a half. In other words, the conditions are not exactly the same in every instance.

Certainly in the handling of all gall bladder cases the question of judgment comes up all the time. You have to individualize in selecting your procedure and you can't go in and say positively ahead of time, "I am going to do this or that or the other thing."

By the way, Dr. Danna brought out a point that I should have mentioned in explanation of my figures here. The reason for the comparatively few cases of cholecystenterostomy was that we have had an enormous amount of material to handle and we simply grouped the material in two sections—the cases where the gall bladder was removed and the cases where it was not removed. So that the comparatively few cholecystenterostomies were included with the cholecystostomies. Undoubtedly at times it is a procedure of wonderful value. Dr. Irwin's and Dr. Silverman's remarks are certainly timely and have definite value.

THE ASSOCIATION OF ACUTE AND CHRONIC INFECTIONS TO MENTAL DISEASE.*

L. R. BROWN, M. D.,
LITTLE ROCK, ARK.

It is with a profound degree of appreciation that I am enabled through the Chairman of this section to appear before this Society, a Society with which I was affiliated for several years and in which, though I am now in a neighboring State, I am still deeply interested. My years in this State were of the pleasantest of my recollections, and it is due in large part to the skill and fidelity of two of your members that I am still on God's footstool and able to participate in this meeting.

For a number of years preventive medicine has been the predominant feature of health and medical progress, the conser-

vation of life and physiological resources taking precedent over all other sciences and arts. It has, however, been but a few short years that we have taken any thought of the hygienic necessities in conserving and protecting the finest of all the bodily functions, that of the mind. It was really necessary to await the story of "The mind that found itself" as it unwound its tale of sadness, incompetency and even negligence before the great leaders of psychiatric thought were led to take up preventive measures in any way. In the old school, there were two causes of mental breakdown, or rather there were two classifications into which the various symptoms and causative factors could be easily grouped, organic and functional, the former implying definite physical changes and pathology, the latter being purely psychic and with no pathological basis or results. However, in many of the so-called functional groups there were frequently observed symptoms suggestive of toxic background but with no appreciable temperature or fever characteristics. The patient would be dull, stolid, blunted in intellectual production, and in some instances apperception and consciousness were noticeably confused and clouded.

In 1876, observation was made by Savage, an English alienist, that several cases of acute mania suddenly recovered following the extraction of bad teeth, and Upton, a dentist in Cleveland, called attention to the relation of infected teeth to mental disorders. It has taken many centuries, however, to learn that there is a strong affinity between certain infectious conditions and the state of mind.

The age of mystery in medicine, especially as it concerns physical ills, is a thing of the past. There is no longer mystery and ignorance even among the laity as to the fundamental causes of disease. Nor should there be such in the realm of the mind. If there could be found tangible causes in even a small group of cases and these tangible factors could be subdued, or at least ameliorated, should we neglect such possibilities?

*Read before the Mississippi State Medical Society, Jackson, May 12-14, 1926.

Have any of you never seen a typhoid fever case in delirium, the toxemia being too strong for the normal resistance to overcome, the same as to pneumonia, malaria, septicemia, even unto appendicitis?

It is self-evident then that there is a definite chain of mental symptoms following infection of any sort, especially of the pus organisms and highly infectious types, dependent upon three factors, the resistance of the patient, degree of temperature elevation and virulence of the infecting organisms.

It is very rare indeed that the primary lesion which causes the abnormal mental condition is found in the brain itself. There is, however, a direct action on the cerebral elements by the morbid agents carried directly through the circulation. There may result coarse and extensive lesions with resultant degenerative changes in the surrounding tissues, or fine, diffuse and frequently invisible lesions as a result of the action of various toxins. In certain types, as paresis for instance, there is destruction of the brain cells by the invasion of the micro-organisms, and this may too hold true with encephalitis lethargica. From the fact that spontaneous recovery occurs at times, it has been argued that the brain itself could not have been affected, but this can be proven otherwise, bio-chemically as well as clinically, in delirium tremens.

We have in general, therefore, the two propositions: First, where there is a direct infection in the nervous tissues extending into the brain, and secondly, where there is at least a bio-chemical reaction due to migrant toxins.

It is quite probable that the constitutional make-up of the individual may play its part as to what type of mental symptoms shall be exhibited, and if it later develops that the hypothesis of contagion is correct, one can almost prognosticate as to the future symptomatology of such cases,

as breakdown mentally under the added stress of infection. The principal avenues of infection are in the digestive tract, with the teeth, tonsils, stomach, colon and mesenteric glands as of primary importance in seeking causative factors.

I can in this short time but touch the high spots in considering this subject. In examining the case records of several thousand patients, however, there can be found so many who are now in State Hospital, who with earlier treatment might have been saved. The age of prevention and treatment in mental diseases is here, but the fact is not grasped by the general practitioner that there can be a possible cure and restoration in so many of these cases where delay has permitted a definite degeneration of nervous fibres or a loss of functionary power. Mental hygiene is but in its swaddling clothes and so far as the general public is concerned, is but a fad or fancy of a few zealots, but the fact of a mental breakdown following an attack of influenza, for instance, or typhoid fever or general septic states, is not considered of any importance. Every single case record which I have observed has followed a definite blood picture, rise in leucocytes and increase in polynorphonuclears, except in two diseases, typhoid fever and pellagra. One must also consider the involvement of infection in definite psychotic conditions which clouds the true picture and changes a good prognosis to a bad one. I am not a faddist—in thought I may assume that every case of mental disease is caused by a specific infection, but the longer I follow so many of these cases the more I am convinced that infection plays a much larger role than has hitherto been thought possible.

DISCUSSION.

Dr. J. M. Buchanan (Meridian): The doctor has given us a very interesting paper and one that should appeal strongly to you, because, as he says you are the first to see these cases. You know there is one trouble with physicians—I have heard so many say, "I don't know anything about nervous and mental diseases, and I don't

want to know." That is where you are wrong. There is nothing so mysterious about these troubles. All of you, whether you have studied psychiatry or not, have sense enough to know when you see a man beginning to fail, and that is the time you may be of benefit. As the doctor says, there is something—it might be a functional trouble, or it might be caused by worry or anxiety, but whenever you find what is playing havoc with him of course the best thing you can do is to get rid of the disturbing influence, change his environment, get him away from disturbing surroundings, give him a new outlook on life, as it were.

I do not know just exactly how you would prevent trouble that results from some infection, unless you take means to remove the source of infection as quickly as possible, before it has any very material degenerating effect upon the patient. That you can also help to do.

I agree with the doctor that in nearly all of these cases—and I hope some time we shall be able to say in all of them—there is something definite that causes the mental disturbance. At one time it was supposed that heredity played the greatest part in the development of mental disease. There is no question but that heredity does play an important part because we have seen too many cases in the same family. Formerly we always looked for taints of heredity to base an opinion, but it does not play such an important part now, excepting in feeble-mindedness. That, barring accident, is nearly altogether hereditary, and that has been worked out with almost mathematical precision.

Then we had another idea—that physical ailments were the next greatest cause. There is no question but that we do have mental disturbances following ill health, especially infectious disease such as pneumonia, typhoid fever, scarlet fever, syphilis, chronic arthritis, influenza, and many other conditions. We also have it from poisoning, such as arsenic, lead, alcohol, and toxins of that kind. The brain and nerve cells after they have been subject to poisoning for a long time become infected, and as the doctor has said, once the nerve cells break down they cannot be restored. You may stop the disease process there and limit the mental disease, but the cells are not restored. That is one of the great troubles we have in syphilis.

The doctor did not touch one thing that I wish he had mentioned. I have seen chronic cases which would develop fever and the mind would clear up for a time. About twenty years ago a country doctor, who, by the way, was a very intelligent man, educated in France, had a daugh-

ter who had dementia praecox, and he asked me several times if I would not infect his daughter with some kind of fever, as he believed it would help her. I did not try it, but since then they are treating general paresis by infecting the patients with malaria. I have had no experience with that, and am not in position to tell you about the end results, but the people who have experimented with it say they have obtained some good results.

But these are the things that we are studying and trying to apply to mental disease. Of course one can understand where there is injury to the brain by syphilis. In any disease that will cause destruction of brain tissues we will have mental disturbance. That part is very well understood. And you might do a good deal in preventing that if you treat the case of syphilis properly, but don't let any one tell you that a few doses of salvarsan will cure syphilis. It will not do it. There is nothing to it as a cure. There is but one thing that will cure syphilis and that is some form of mercury. Of course, salvarsan will help, but it will not cure. I wish you would bear that in mind. Do not give your patient salvarsan and tell him he will be well.

Dr. H. H. Ramsey (Ellisville): I want to welcome any knowledge, any information which will help the medical profession to tear the mask from mental disease. I want to thank Doctor Brown for his splendid presentation of this special subject of focal infections as a cause of mental disease. From the standpoint of social economy there is no more important subject facing the people of this State or any other state, and we as medical advisors to the people of the State must handle this subject sooner or later for our people.

I enjoyed Doctor Brown's discussion of this subject because I realize there is merit in his discussion and in the theories that he lays down. The time has been when the average doctor—I expect I have done the same thing myself—has sent pellagra patients to the insane asylum as insane because he did not know the difference between a mental breakdown caused by pellagra and insanity itself. And other conditions might be cited which are just as true. I do not think however, that we should lose sight of the hereditary aspect of mental disease. We are too apt when we find focal infection to let the pendulum swing too far the other way and draw the conclusion that a majority of cases of mental disease may be due to some focal infection which we do not understand. Personally, I cannot get away from the hereditary aspect of mental disease in the main, and I would like to ask Dr. Brown in this connection with reference to the

action of focal infections in case of certain types of nervous conditions. You know we have certain people who have stable nervous systems; we have others who have unstable nervous systems. I would like to ask him in this connection the difference in the effect of the focal infections on these different types of nervous mechanism.

Dr. L. R. Brown (closing): I can agree with everything that both speakers have said. I hope no one will think that I am saying focal infection is the cause of insanity—quite the other way. But when we have 10 to 15 per cent. of cases coming to the State Hospitals showing definite focal infection I think it should be considered the same as the 10 to 15 per cent. that come in showing syphilis as the cause. This is just one of the many phases that appear to keep our hospitals overflowing—no room for any more. Perhaps some of you do not realize that there were over 270,000 insane patients in hospitals in the United States last year. And it is only a few years ago when the cost of maintaining the insane institutions of the United States was eighteen times the cost of maintaining institutions for tuberculosis. It is a serious economic problem.

There is another point that I did not bring out, and that is that nearly every case that comes to the hospital has some pathology. When the physical examination and laboratory work has been thorough, nearly every case will show some pathology. That may mean something to you or it may not. That is probably true in general practice.

In the matter of intercurrent diseases clearing up mental disease, we have had that experience a number of times, especially in the acutely excited case. That may work exactly as the malaria treatment on paresis is supposed to work. The toxin of the intercurrent infection acts as an antitoxin to the toxin of the mental disease. You may take that for what it is worth. I do not know. But that idea has been considered, because a great many of these cases that do clear up have a recurrence afterwards. Another thing, we have had a case clear up after a broken leg, and there was no infection there, so that breaks down the hypothesis of toxin anti-toxin. I do not know the reason.

In regard to the individuals with stable and unstable constitutions, those with unstable constitutions cannot withstand or resist infection as well as those with stable constitution, and if there is anything in the old axiom that infection or disease will hit the weakest part, then the infection, or the toxin of the infection, will hit the

weakest part, which in the unstable individual is the nervous system.

Every case of mental disease is a law unto itself. I think anybody who has had any experience in that work will say that. No case is classical. Each case presents certain features which no other case presents. I am simply trying to present the possibilities of prevention in the matter of infective agents. I thank you most cordially for your attention. It has been an extreme pleasure for me to get back to Mississippi.

THE CONSERVATIVE METHOD OF TREATING ECLAMPSIA, WITH SPECIAL REFERENCE TO THE STROGANOFF TECHNIQUE.*

E. L. KING, M. D.,
*Associate Professor of Obstetrics, Medical Department,
Tulane University of Louisiana,*

NEW ORLEANS.

In April, 1925, in a paper read before the Louisiana State Medical Society,⁽¹⁾ I reported eight cases of eclampsia which I had treated along conservative lines. In a paper previously published,⁽²⁾ I had reported six of these patients. Since the reading of the second paper, I have treated in a similar manner seventeen additional cases, and I desire to supplement these preliminary reports by this communication.

Conservative measures, as opposed to radical operative procedures, have resulted in a lowering of the maternal mortality with little or no increase in the fetal death rate, whenever these measures have been carefully employed in accordance with the technics advocated by the proponents of the various methods. At least three lines of treatment have been advocated, each one of which has for its object the control of the convulsions with little or no operative interference.

Stroganoff insists that what he terms "the improved prophylactic method" is the best treatment for eclampsia, and he re-

*Read before the Orleans Parish Medical Society, October 11th, 1926.

ports in his latest paper⁽³⁾ a series of 300 cases with eight deaths, a maternal mortality rate of 2.6%. Of these eight, four were moribund on admission, and died in from three to eight hours. One patient was not given the full treatment, as no chloral hydrate was available (she had also had both legs amputated as the result of an accident). Two patients with mild eclampsia died of pneumonia and sepsis. In the eighth patient it was impossible to control the convulsions, and in the tenth and eleventh seizures she developed apoplexy and died. He denies that his cases have been especially mild, or that many of them have really been nephritic patients; these points have been raised by some as possible explanations of his results. In 1918 Stroganoff⁽³⁾ collected from the literature 2208 cases treated conservatively in various clinics which he designated as "the old method and its variations," with a total maternal mortality of 9.8%. In this recent paper⁽³⁾ (published in June, 1926), he states that since March, 1925, he has treated twenty-five cases, partly by personal attendance and partly by telephone consultation. All recovered. This record is set forth as a contrast to the mortality rate of one in six, which previously obtained in the hospital in which he cared for twenty-one of these patients. Stroganoff relies chiefly on morphine and chloral. The details of his treatment will be given later.

In the Rotunda Hospital of Dublin a different method is employed, dependence being placed chiefly on starvation and eliminative measures. The stomach is washed, and the colon is flushed at regular intervals with large quantities of a sodium bicarbonate solution. Great stress is laid upon this flushing, and Fitzgibbon and others writing from this clinic give detailed directions for its proper performance. Drugs are little used; for example, in the last report from this hospital,⁽⁵⁾ I note that in twelve cases of eclampsia treated in the year covered by said report only one patient received morphine. In previous

years, morphine was more frequently employed. The patient is kept on her side, and an attendant keeps the throat and mouth carefully sponged free of the mucus that accumulates. These writers claim that many patients die as a result of the aspiration of this mucus; that is, they are practically drowned in their own secretions. Solomons,⁽⁴⁾ in 1922, reported from this clinic a maternal death rate of 10.29% in 204 cases. Of the twelve cases mentioned in the latest report,⁽⁵⁾ two died, a mortality rate of 16.6%.

Lazard,⁽⁶⁾ in 1925, reported a series of 20 cases of eclampsia treated at the Los Angeles General Hospital by the intravenous administration of magnesium sulphate. Others have taken up this treatment, and in July, 1926, Lazard, Irwin, and Vruwink,⁽⁷⁾ reported the results obtained in the treatment of 103 cases by this method as employed by themselves and others, chiefly in and around Los Angeles. There were 14 maternal deaths, giving a mortality rate of 13.6%. After deducting 5 deaths for various reasons, they obtain a net mortality of 9 deaths in 98 cases. The method is being employed by others in various parts of the country, and in the course of a trip to some northern and eastern clinics in May of this year, I found that many leading obstetricians are quite enthusiastic about it. The essential factor in the treatment is the intravenous injection of 20 cc. of a 10% solution of magnesium sulphate as soon as possible after the first convulsion. This injection is repeated hourly until the convulsions are controlled. Additional measures, such as lavage, phlebotomy, hot packs, etc., have been discarded. The patient is disturbed as little as possible, and oxygen is given after each convulsion. Gas is used for the labor, and low forceps or version are employed frequently.

In the Charity Hospital of this city, in the years 1919-1924, inclusive, 62 patients suffering from eclampsia were treated by various operative measures, the aim being

rapid delivery, with 24 maternal deaths, a mortality rate of 38.8%. Dissatisfied with these results, I decided to try conservative measures. My first attempts were conducted along rather haphazard lines, for which Stroganoff has rightly taken me to task,⁽³⁾ but the results were most encouraging. I have subsequently systematized my technic, leaning toward the Stroganoff method. I am now satisfied that he is right in insisting that the best results are obtained by employing the method exactly as outlined by him, and that modifications lessen the effectiveness of the treatment. I am at present using his method as given by him in the *Lancet* (1924),⁽⁸⁾ except that I have not used chloroform to control the convulsions and to eliminate the irritation of manipulations, such as catheterization, etc. I expect to do this in the future, however, in order to follow out his technic in every detail. I may add that I have had no experience with the Dublin method nor with the magnesium sulphate treatment.

Stroganoff's directions are as follows:

(1) Absolute quiet, with a minimum of examinations and manipulations. As little light as possible.

(2) Morphia, gr. $\frac{1}{4}$, hypodermatically, on admission.

(3) One hour later, chloral hydrate, 2 gm. (30 grains), in 100 cc. of milk by mouth, or in milk and normal salt solution, 100 cc. each, by rectum if unconscious.

(4) Three hours from the beginning of treatment, morphia gr. $\frac{1}{6}$ to $\frac{1}{3}$, generally gr. $\frac{1}{4}$, hypodermatically.

(5) Seven hours from the beginning of treatment, chloral hydrate, 2 gm. (30 grains), by mouth or by rectum, as above.

(6) Thirteen hours from the beginning of treatment, chloral hydrate, gm. 1 (15 grains) to gm. 2 (30 grains), generally gm. 1.5 (22 grains), orally or rectally.

(7) Twenty-one hours from the beginning of treatment, chloral hydrate as un-

der (6), generally using gm. 1.5 (22 grains).

The dosage is increased in severe eclampsia in strong patients, and is diminished in the mild form. At first, chloroform, 10 to 20 minims, is given by inhalation if convulsions appear imminent. It is also given for any manipulations, such as vaginal examination, catheterization, etc. On the second day undelivered patients receive gm. 1 (15 grains) to gm. 1.5 (22 grains) of chloral hydrate three times a day. If there are no convulsions for 14 hours, and the patient is in good condition, the dose may be diminished. If the convulsions recur two or three times in quick succession, if the patient had had six or more before admission, or even one in a severe case, 400 cc. of blood are removed by venesection. This venesection is not done if delivery is expected within one or two hours. He objects to the intravenous injection of saline or glucose solution. As soon as the patient can be delivered without harm to herself or to the child, this is done, either with forceps, by extraction in breech cases, or rarely, by version. In the absence of contraindications, the membranes are ruptured when the os is two fingers dilated in multiparae and three fingers dilated in primiparae. The patient is kept warm, and hot tea diluted with milk is given; in case she is unconscious, 1000 cc. each of milk and normal salt solution are given by rectum per day. Oxygen is given after each convulsion, and plenty of fresh air is essential. If she is unconscious she is kept chiefly on the right side (Stroganoff thinks that this position takes the strain off the heart), and vomited matter, mucus, and blood are sponged from the mouth when necessary. I might add that he protests against the failure to use chloroform for the convulsions in comatose patients. If the pulse is 110 or over, digitalis is given, and at times camphor or caffeine. The patient is not purged, the stomach is not washed, nor are enemata or flushes administered.

I have treated 25 patients suffering from eclampsia along these lines. Of these, 14 were antepartum, 9 were intrapartum, and two were postpartum cases. There were two maternal deaths, both in the antepartum group, a mortality rate of 8%. However, in both instances the convulsions were controlled by the treatment. One patient recovered from the eclampsia, but died two weeks later from septicemia, probably traceable to an error in our technic, or to the excessive vaginal manipulations necessary on account of a slow and difficult delivery. The other patient was really suffering from advanced chronic nephritis, rather than from true eclampsia. She had a phenolsulphonphthalein test of 0%, suppression of urine which was finally relieved by the use of novasurol, and a nonprotein nitrogen blood content of 264 mg. per 100 cc. shortly before death. After recovering from the convulsions and from the anuria she developed bronchopneumonia which proved fatal. These 25 patients were as ill as others admitted in previous years, as is evidenced by the fact that most of them had from three to eight convulsions (two had only one each), one had 13, one had 15, and one 16; the latter was the nephritic patient dying of bronchopneumonia. The systolic blood pressures varied between 150 and 210, and the usual urinary and blood chemistry findings were noted.

As regards the babies, it is to be noted that eleven were premature and stillborn, many of these being dead on admission and macerated at delivery. The weights of these infants varied between $2\frac{3}{4}$ and 5 pounds, 2 ounces. Two full term babies were recorded as being dead in utero on admission; another full time baby was macerated when delivered three days after admission of the mother, though the record fails to note the presence or absence of fetal heart tones at the first examination or subsequently. Two babies were delivered prior to admission before the mothers delivered eclampsia; one was stillborn after a forceps delivery; the fate of the other was

not stated on the mother's record. The nine babies that were living and at or near term when the mothers were admitted were all delivered alive, and left the hospital in good condition. Thus, with nine babies alive and fifteen stillborn (the fate of one not being known), we have a fetal mortality of 62.5%, which is to be charged against the disease rather than against the treatment. Remember that eleven of the fifteen dead babies were premature, and that three of the other four were recorded as dead when the mothers were admitted.

The mortality rate of 38.8%, mentioned above, corresponds fairly well with the maternal death rate following radical measures as reported from other clinics. Thus Williams⁽⁹⁾ records a mortality rate of 24.7% in 85 ante- and intrapartum cases thus treated. Ross McPherson,⁽¹⁰⁾ in 1909, reported a series of 250 cases with a maternal death rate of 30.8%. DeLee, in the 1921 revision of his textbook,⁽¹¹⁾ states that the maternal mortality is from 20 to 45%. Cesarean section particularly has been weighed in the balance and found wanting, despite the fact that a few men particularly skilled in the selection of cases and in operative technic still employ it occasionally. Thus, it has been resorted to in 15 out of 78 cases of eclampsia at the Chicago Lying-In Hospital,⁽¹²⁾ with a maternal mortality of 6.7%, which is much lower than the average for this operation in eclampsia. Peterson, in his masterly review of the employment of this operation in eclampsia,⁽¹³⁾ found a maternal mortality of 25.79% in those patients operated upon since 1913. His report was based upon a study of 500 cases operated upon by 259 different surgeons. In the Charity Hospital, in the 69 cases treated by this method, the series dating back for several years, the maternal mortality was 36.23%. Contrast with these figures the maternal mortality rates following the use of conservative measures: 9% for the magnesium sulphate treatment; 10.29% for the Dublin method, 2.6% for Stroganoff's personal

series of 300 cases, and 8% for my small series. Comment seems unnecessary. I feel confident that if the Stroganoff treatment is employed exactly according to his directions, his results can be duplicated, but this will not be the case unless we follow his technic. It may be that equally good results can be obtained by the use of the Dublin method, or by the employment of magnesium sulphate intravenously, particularly after refinements of technic are developed during the management of hundreds of cases. This point remains to be determined.

731 Maison Blanche Bldg.

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DISCUSSION.

Dr. Walter Levy: I think nearly everyone doing obstetrics will agree upon the conservative treatment of eclampsia and particularly the Stroganoff treatment. However, I do not believe that any of these follow one line of treatment all the time, but lean to the conservative treatment in the vast majority of cases.

I have worked with glucose and insulin and had excellent results. In an article recently published in the *Surgery, Gynecology and Obstetrics*, I think I have shown that in pre-eclamptic toxemia and eclampsia there is a co-existing acidosis. In these particular cases I have found CO₂ combining power low, the blood sugar low, and in a fair number of these acetone in the urine.

We know that pre-eclamptic patients and those suffering from eclampsia succumb to shock and sepsis easily. This in itself is one of the strong arguments in favor of the conservative treatment and against the use of Cesarean section.

As regards the use of glucose and insulin in these very cases and its being of value in the treatment of shock, Dr. Macheca and myself reported a case of shock superimposed upon hemorrhage which yielded to glucose and insulin, and since that time I had six cases of shock, four of which followed hemorrhage. Many more cases of pre-eclamptic toxemia and eclampsia yielded to glucose and insulin, and at present at Touro we make use of the conservative plan of treatment plus glucose and insulin in treating our eclamptic patients.

Dr. J. Birney Guthrie: It might seem presumptuous for an internist to discuss this subject of treatment of puerperal eclampsia. However, I have seen many cases and I think I was the first one here in the medical fraternity to advocate the use of glucose and insulin in this condition. Since then it has come to be an established procedure. I do not believe we are justified in using glucose intravenously unless the proportionate dose of insulin is given. I saw in the last 60 days a patient very sick to whom glucose had been given by intravenous drip without the insulin. In this case that had 4,000 cc. of 5% glucose in vein every 24 hours for 5 days the drip method associated with 40 units of insulin in 4 doses given in the drip, the blood sugar ranged about 160. By intravenous methods of that sort without insulin we are transforming the patient for the time being into a diabetic. I do not believe we are justified in rendering a patient hyperglycemic whose resistance is already under a strain. We do not know the cause of eclampsia. It is a series of convulsions brought on by some sort of disturbance and I am not here to discuss the question of the etiology or treatment, but a convulsion is a convulsion no matter where its manifestations occur. It is like fibrillation in the heart muscle. A great storm is going on in the brain analogous to what we see as the result of intensive stimulation of the heart muscle. In the heart muscle we raise the threshold reaction with a specific and the convulsion ceases. In general convulsions, we have many drugs. Of these, morphine is the least desirable. I do not approve of the morphine-chloral treatment.

In my hands the old bromide and chloral serves better and does not mask some of the valuable guides, notably the pupils. Of late, following the teachings of those who have the management of large numbers of epileptics, I find that luminal is perhaps the best drug. It can be given in the sodium combination, by needle, in 2 grain doses, and repeated for effect.

Dr. E. L. King (closing): We used glucose and insulin along with the Stroganoff method in a fair number of cases but I do not know that we had

any better results. I do not think we did. Stroganoff brings out the point that any irritation will precipitate convulsions. We had one case where the intravenous administration of glucose started a convulsion. We stopped the glucose and the convulsion ceased. We let the patient alone and gave a colonic lavage 2 or 3 hours later. She had another convulsion. Any manipulation is liable to precipitate a convulsion.

Regarding the time of induction of labor in eclampsia, I feel that it is best to let the patient alone; let her get over the eclamptic attack. Then labor can be induced, if necessary. However, the family usually wants something done at once, and at times it is hard to convince them that we are doing the correct thing. Of course we do not know the agents causing the convulsions. We do not know where the toxin originates. We simply know that we have this toxemia associated with the latter half of pregnancy. Martin Fisher, professor of physiology, University of Cincinnati, who has written a good deal on nephritis, in a conversation with me several years ago, stated that his idea is that the convulsions are due to cerebral edema. He believes magnesium sulphate intravenously would dehydrate the brain.

About the use of morphine—we only use two $\frac{1}{4}$ grain doses of morphine three hours apart. Stroganoff seems to rely chiefly on chloral. Whether luminal could be used instead chloral would have to be worked out.

The primary object of this treatment and all other conservative lines of treatment is the control of the convulsions. Let the patient alone as much as possible. Manipulations, examinations, etc., are all liable to precipitate convulsions.

A DOUBLE PNEUMATIC MASTOID.*

GEORGE E. ADKINS, M. D.,
JACKSON, MISS.

I take the liberty of presenting this in the form of a case report for the following reasons:

First—That a pneumatic mastoid may be to the minds of some, of doubtful occurrence (and I confess that I am a recent convert), for to me a non-infectious mastoid was most unthought of and of doubted existence.

Second—because most of you would very likely refuse to make the diagnosis at the first visit—just as I did.

According to a definition of inflammation of the case that I shall report might be classed as a mastoiditis, but according to the common way of thinking of inflammation (always attended by an infection) it might be classed as a mastoidalgia, for certainly the cardinal symptoms of inflammation (calor, rubor, dolor, tumor and functio-pervertis) were all present in the case, but minus the infection.

E. McD., age 11 years.

Brought to me for a swollen and painful right ear, with a history of frequent painful attacks accompanied by swelling and tenderness over the mastoid portion.

There was no history of earache and no discharge. The external markings were those of a typical mastoiditis, swollen, very tender to direct pressure over the mastoid bone with slight redness.

There was no tenderness of the auricle, and inspection of the canal and membrane-tympani showed an uninfamed canal and a normal drum head. I agreed with the family that the case presented marked signs of an acute mastoid, but that I could not call it such or operate without some signs of a middle ear involvement. They immediately informed me that they had been told just this by another physician on two occasions. This made me cling even harder to my decision, for I have all confidence in the physician quoted.

With the application of ice cap and moderate purgation the condition subsided greatly for a few weeks—only to repeat the cycle, when the ice cap was prescribed again. The condition slowly subsided again to return a few weeks later.

At the third visit I suggested opening the mastoid, the family physician thought well of it, and the mastoid was opened.

On unroofing the mastoid only large clean cells were found. The antrum was clean, and with slight pressure a soft probe was passed into the middle ear. The mastoid was closed without drainage, because there was no infection.

Feeling that I had done no good, and the child being in good condition I decided to remove the tonsils and adenoids. This was done and a rapid recovery followed, the patient leaving the hospi-

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

tal on the third day. The patient has not had a recurrence of the trouble on this side.

About two years later the patient was brought back to me with the same condition on the left side. Again I could not be convinced of the necessity of an operation, and let them return home. A few days later I was called by the physician and told that the child was in great pain, and that he thought the mastoid should be opened.

The child was sent to the hospital and the left mastoid opened under the same conditions for which the right was opened just two years before. The findings were the same and the results equally as satisfactory, from the standpoint of recovery and complete relief of the condition.

Thus justifying the diagnosis of a Double Pneumatic non-Infectious Mastoidalgia.

DISCUSSION.

Dr. E. L. Wilkins: I am frank to confess I didn't know there was such a thing, and I couldn't find anything in my library on such a thing, and everybody I asked said, "I don't know what it is." I am glad to hear Doctor Adkins tell about it, and it is very interesting to know we might have a case of that kind; it might give some of us a chance to do more mastoids.

A short while ago I saw a case that had been sent by a general physician, and a good man, that had some swelling along in here, indicating point below ear, behind angle of jaw, no ear trouble or involvement that could be seen. I wasn't able when I saw it to make a diagnosis, because the ear was perfectly normal, except the swelling, extending from here, angle of jaw, up above the level of the ear and above the mastoid; so, I wasn't able to make the diagnosis and sent him to Memphis, and when he got there and fell into Doctor Howard's hands, Dr. Howard had some three or four x-rays before he could make the diagnosis, and then found a very extensive mastoiditis, with no ear involvement. The patient had had an acute suppuration on the right side, this being on the left, and had had acute tonsillitis, but absolutely no indication from the left mastoid, except the external swelling.

Doctor E. F. Howard: I had two similar cases. The first one was about five years ago. I refused at first to operate on the case, and was told by the general surgeon, whose patient he was, that if I didn't operate on him, he would. That is a mighty poor reason for operating, but I figured that I would probably do less harm; I might have sense enough to know when to stop, and he might not. So, in the interest of humanity, and es-

pecially as it was a charity case, and I could not be accused of operating for money, I went into the operation. The results were about as the doctor has given. A little later the tonsils were removed, and we haven't had a recurrence on the other side.

Within the past thirty days there turned up another case that was first operated on in New York. I don't know, of course, the particulars of that operation. But there had been no middle ear suppuration. She made a very prompt recovery, but she has an awfully nasty scar. About eight or nine months after that operation she developed an inflammation, as described, in the other mastoid. The canal was perfect—normal; the ear perfect; but there was so much inflammation there that the pinna stuck out straight from the side of the head, as you are accustomed to see in a well-developed mastoid. I couldn't bring myself to operate on that case. She was a little thing, and I put her to bed with a purgation and ice-pack, and in forty-eight hours she was well. That was probably taking long chances as the family and a general surgeon, who was the same man in charge of the other case I saw, were yelling for operation. I think her blood count was the first day something like 18,000; it dropped to 10,000 in twenty-four hours. There was certainly no question of that mastoid, and no indication I could find anywhere, except a little swelling and pain. This kid hasn't been operated on yet.

Chairman McWilliams: There is one point I would like to discuss in connection with that paper just briefly, and tell a little experience I had with a mastoid, something like this: A patient had an abscessed ear but complained of pain, behind her ear, right over the mastoid, in the same region you get with a reflex pain. We had an x-ray of the mastoid, and at the same time found a badly infected wisdom tooth. I had that removed, but it seemed when removing the wisdom tooth we had a little infection of the second molar, and all of the lower jaw was sore, and she still complained of this pain in the mastoid. In the meantime, and after we had the third molar removed, I did a mastoid and found an almost healed mastoid, no pus, but some conditions in there you would expect from a normal healed mastoid of about two weeks duration. I contend that pain in the mastoid was a reflect from that third molar, and the molar was due to the infection of the second molar from the removal of the wisdom tooth. I suggest you rule out reflex pain from teeth before you do a mastoid, because there are so many things that will give you reflex pain in the mastoid.

Doctor Anderson: I would like to ask Doctor Adkins if an x-ray picture was made.

Doctor Adkins: There was no pathological condition there, doctor, when we opened it.

Doctor Anderson: Would the x-ray have shown anything but an ordinary mastoid?

Doctor Adkins: That's all it could show.

Doctor Arnold: Did you say there was external swelling?

Doctor Adkins: Yes, external swelling.

Doctor Arnold: I wonder if that could have been something akin to these sinus headaches. I can't afford any explanation for the condition aside from that.

Dr. George E. Adkins: This child was only eleven years old; consequently the last molar couldn't have been playing much part at eleven years old. There was literally no infection. Most of the cases spoken of have been cases spoken of as having had trouble; this child had no trouble, except pain for a long time, and that was followed by swelling. There was no external otitis. The minute you touched down over the mastoid which was swollen it hurt her, and hurt badly. This would subside in a few hours; it would pass off and in a few days would come back, and she would suffer awfully, as she did—maybe as bad as if she had an infected mastoid; the ear drum perfectly good, tonsils not bad. I said in my paper I took the tonsils out after I did the mastoid, because I felt I had done no good, and I wouldn't throw off on her completely. I didn't expect to do any good in the world, but we never had any more trouble with the mastoid. The cells were perfectly clean. We didn't have the slightest pain afterwards, and two years later it came in on the other side, and the same physician who had been through this thing—understand this child had been sent home six times; six times they had wanted something done and it had been refused, four times by me and two by another man we all have respect for—he is good; followed by recurrence every time. Two years after the first mastoid the other one occurred and we opened it under the same conditions; it was perfectly dry and healthy, and we probed through the middle ear; and it hasn't returned in the last two years. The child had no history of any ear trouble.

THE AUDIOMETER IN HEARING TESTS.*

ARTHUR I. WEIL, M. D.,
NEW ORLEANS.

The few words that I am going to say tonight can in no sense of the word be considered a scientific paper. I just want to, in a very short, informal talk, tell you a little about the audiometer and what it does for us.

I am sure that men who are devoting their time, more or less to general work, have little interest or enthusiasm for these special methods of examination, and yet I feel that it would be worth a little of their time to hear something about the audiometer and how it helps in making diagnoses, classifying diseases, and estimating prognosis. In this way, it assists considerably in the treatment and the general estimation of our hard-of-hearing cases.

We are living in an age of precision. In all the various sciences—in engineering, architecture, surveying, and astronomy—a constant effort has been made to perfect instruments of precision, and it is these instruments which have brought these sciences to their present state of perfection. The instrument I am about to describe is an instrument of precision in otology, comparable to similar advances in other sciences.

Now, up to the past few years, our method of determining just what a patient's hearing was, had been very crude and unsatisfactory. We have had the several tests, with the watch, the whisper, and the acometer to determine in a very rough way the quantitative hearing of the patient, and the tuning fork and Galton whistle to estimate crudely the qualitative hearing, that is, the relative perception of the high and low notes, and just what part of the scale was best heard by the patient. But these tests we have known for a long time were very unsatisfactory indeed, and efforts have

*Read before the Orleans Parish Medical Society, October 25th, 1926.

been made by different men in various ways to standardize and improve these tests so that they could be used for comparison and for the more definite determination of a patient's hearing, and, in this way, make possible the estimation of whether a patient's deafness was progressing or was responding to treatment, etc.

Different men have made several attempts, for instance, placing the watch and the acumeter on a measuring rule to determine at what distance they could be heard; and the stopwatch in connection with the tuning fork to determine the length of time the tones could be heard. All these attempts, however, have been far from satisfactory.

In the past few years, Dean of Iowa City, and others, have devised an electrical vibrating apparatus known as the "audiometer," which has in a large measure fulfilled our requirements in this respect. The Western Electric Company, with the aid of their hearing experts, have developed the audiometer we are at present using.

I am sorry that I have not been able to bring the instrument here for your inspection, as it is as present in New York being repaired. It is, moreover, a very heavy, complicated piece of apparatus, which does not lend itself readily to transportation. It will be sufficient, therefore, to describe in a general way what the audiometer is like and what it does.

By means of vacuum tubes and electric currents, somewhat similar in principle to the radio, it has been possible to set up auditory vibrations from the lowest to the highest, varying in the larger apparatus from sixteen double vibrations to thirty-two thousand double vibrations per second. These tones can be produced at will, and then, by means of a turning-screw, somewhat similar to a rheostat, the intensity of these sounds can be increased from nothing to very loud, so that they can be heard except by those who have complete loss of perception of the various notes.

A method also has been devised whereby the result of the examination can be permanently recorded on a chart somewhat similar to the field of vision chart used by the ophthalmologist, the hearing of each ear being recorded separately, and the whole chart being retained as a permanent record. Such a chart we call an audiogram.

I will pass around some of these cards for your inspection, showing how the hearing of each ear is recorded, both quantitative and qualitative, and in some cases a second chart of the same patient taken several months later is shown, demonstrating the comparative ease with which successive examinations by the same man or by different men can be compared.

The advantage of this method of hearing test is obvious. In the first place, we can test a patient's hearing and if that patient later goes to another city to another doctor who has such an instrument in his possession, he can make similar tests and compare his results with mine that might have been made a year or two years before, and by means of this instrument will be able to determine if the patient's deafness is progressing, if it is stationary, or if it is improving. This possibility of standardization and comparison constitute an advantage which can readily be understood.

The second merit of this method is the possibility of making an accurate qualitative hearing test, comparing the low notes, the middle scale, and the high notes, and any defects in the scale which may exist. This is of considerable importance to us in determining the character of the patient's deafness, that is, if it is a middle ear or catarrhal deafness, or if it is an internal ear or central nerve deafness; for those who suffer from a middle ear or catarrhal deafness usually have a diminution of low note perception, while the central nerve or internal ear deafness is characterized by diminution of the high note perception or some hiatus in the musical scale. In this way it is possible to estimate more accu-

rately the character of the patient's disease, which guides us not only in the character of the treatment which for the two diseases is very dissimilar—the treatment of the middle ear deafness being more or less local, while that of the second class can be treated chiefly only by finding and removing certain forms of toxemia or focal infection, but, also, it assists us in making a prognosis, for it is well known that the prognosis in middle ear deafness, with the exception of otosclerosis, is much better than that of the internal ear deafness.

The third advantage, as stated above, is the possibility of comparison, thus determining whether a patient's hearing is improving under treatment or whether the treatment is not producing results. The possibility of thus controlling and checking up on the result of treatment is of great assistance to us in determining whether it is advisable to continue the treatment or not. For instance, if a patient comes to you with the hearing diminished, for example, about fifty percent, and you make an audiogram on this patient, after several weeks or months of treatment this audiogram can be repeated and you have then a more definite, obvious indication whether the treatment is doing good—whether the patient's hearing is at a stand still, or whether, in spite of all treatment, deafness is progressing.

To recapitulate, the advantage of the audiometer are as follows:

1. Standardized tests whereby one man's examination can be compared to another man's made later, possibly in a distant city. This was impossible under the old methods of examination.

2. The testing out of a patient's qualitative hearing, estimation of his comparative perception of the notes from the highest to the lowest, in determining the diagnosis of what form of deafness exists.

3. The possibility of subjecting the patient to repeated tests, estimating

whether the hearing is improving or retrograding, thus giving as a check on the success of our treatment and in aiding as materially in giving a prognosis to the patient.

DISCUSSION.

Dr. H. L. Kearney (New Orleans): The principal interest the otologist and his patient will have in the audiometer is from the practical aspect. After the audiogram has been made, how will it help in the individual problem of deafness? It fills the long felt want of an accurate quantitative test of hearing. Probably the most primitive test of hearing is the voice. When carefully conducted it has been a fairly practical test, but it can't be standardized. Also, the sounds of certain letters are heard normally at greater distances than others. Vowels carry best. Consonants vary tremendously in carrying power. On a scale of 100, the consonant T has a value of 100. It carries well. When I whisper T, you can probably hear it in the back of the hall. On the other hand, M carries very poorly and has a value of 9. When I whisper M you must read my lips to understand me. Another old, but not very reliable quantitative test of hearing is the watch. Here is a watch that I can hear tick at a distance no greater than 18 inches. On the other hand, I can hear this watch at a distance of many feet.

The audiometer does away with the uncertain loudness of the sound used in the quantitative estimation of the acuity of hearing and gives us the ability to plot an audiogram that will mean as much to some one else as it does to the man who made it. Perhaps it will enable us to discern evidences of beginning deafness that would not be discernible otherwise.

If careful hearing tests were conducted on all school children we could be of assistance to those little fellows who are handicapped in their struggle for education by the odds of deafness. Hearing defects could be recognized years before they would become noticeable to the child or its parents and could be recognized at a time when treatment would perhaps arrest the progress of the deafness, whereas, when deafness is established, it is all too often hopeless.

Knudsen and Jones of Los Angeles have offered a plan for the group testing of children by means of a modified Western Electric audiometer that seems very practical. In their plan about 50 children could be carefully examined in one hour. Probably in the public schools of New Orleans there are at least 3000 children suffering from more or less pronounced hearing defects, the timely treatment of which would be of great value.

THE MANAGEMENT AND TREATMENT OF PULMONARY TUBERCULOSIS.*

CHARLES R. GOWEN, M. D.,
SHREVEPORT, LA.

So much has been written in the past few years about the diagnosis of tuberculosis that I feel it is timely to follow this up and to discuss its management and treatment, because, after the diagnosis has been established, the real task, that of preventing the spread of the disease, and of restoring the patient to normal life, has only begun. Within the past thirty years the management and treatment of pulmonary tuberculosis has greatly changed, and has been put on a rational and more or less scientific basis.

A brief history of the treatment of tuberculosis as far back as a century before Christ may be of some interest here. At that time the Chinese recognized a disease which undoubtedly was pulmonary phthisis and they attempted a paliative treatment with licorice, almond, barley and peach kernels. The most rational line of treatment used in ancient times was by the Greeks. In the chronic cases they used relative rest, a rich diet of easily digested food, moderate exercise in some cases, and occasionally a change of climate. By this brief glimpse into the past, it is brought home to us that one of the greatest problems of medicine through the ages has been the successful management and treatment of pulmonary tuberculosis.

It was Hermann Brehmer in Silesia, Prussia, in 1853, his pupil, Peter Dettweiler, in 1874, and our own Dr. Trudeau, who proved the real value of complete rest. It was these three men who satisfactorily demonstrated that—given absolute rest over a sufficiently prolonged period of time—a tuberculous lesion in the lung will heal. It was they also who found that the

most successful plan of carrying out this treatment of prolonged and systematic rest was by grouping the patients in colonies or sanatoria.

The keynote of treating tuberculosis is a thorough knowledge of the pathology of the chest. Directing the patient successfully in each successive stage of the disease rests wholly on this knowledge. With a knowledge of the pathology of the chest one is able to make a correct deduction from the following indicators: the fever thermometer, the pulse rate, respiratory rate, cough and expectoration, the stethoscope, and the X-ray findings. The routine which a physician prescribes for his patient depends day by day on these indicators.

Always first and foremost comes rest. Temperature over 100 degrees during any part of the twenty-four hour period means absolute rest in bed, regardless of the amount of pathology in the lung. This rest should be continued for at least twenty to thirty days after the temperature has returned to normal limits. A persistent pulse rate over 85 for a man and 95 for a woman also indicates rest in bed. A continued cough yields readily to rest, and expectoration is also lessened. When the stethoscope and X-ray tell that the involvement is extensive and active, the only possible chance to stop the spread of the disease and heal the lesion is rest.

When I use the term rest I mean that the patient remains in bed twenty-four hours a day. The necessary functions of toilet and bath are performed in bed. As the symptoms subside this absolute rest is gradually broken. The first privileges granted a patient are those of toilet and bath. When these first cautious privileges do not increase symptoms the patient may sit up once a day in a comfortable chair for from fifteen to thirty minutes. As his condition warrants the rest periods are more and more broken.

When the temperature and pulse have been within the normal limits for a few

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weeks and all the other symptoms and physical signs are definitely retrogressing, the patient may be allowed to dress and go to breakfast. I prefer starting with the morning meal because all the body tissues have had a thorough rest. If this amount of exercise causes no increase of symptoms within a week or ten days the patient may be allowed to dress and go to the noon meal, and in like manner the exercise may be increased to the third meal.

Of increasing importance at this stage of the treatment are the periods of absolute rest in bed between meals. This means that the patient must undress after each meal and go to bed for a period of from two to two and one-half hours in the morning and two and one-half to three hours in the afternoon, with no talking, visiting, reading or writing,—nothing but absolute rest.

Recurrence of active symptoms always demands a return to rest, discouraging as this may often be. It is too much to expect a complete recovery without some periods of exacerbations of the disease. At any stage these may occur and the gradual process must be repeated.

As essential as physical rest is, so also is peace of mind and freedom from worry. To maintain this, occupational therapy and vocational training have come to occupy a most important place in the treatment of tuberculosis.

This scheme of gradually increasing exercise may be begun in bed with reading or mild study or with occupations which demand only the minimum movements of the hands, such as knitting, beadwork, or other light forms of handicraft. As the patient is gradually allowed up for longer periods this occupational therapy is cautiously increased to the various types of shop work.

The first form of outdoor exercise prescribed is walking. It is begun with a short walk of possibly one-eighth of a mile

once a day. This is increased only as the general condition and strength improve and no untoward symptoms develop. These walks are finally increased to as much as four and five miles a day.

Diet and nutrition are most important factors in the treatment of tuberculosis. Forced feedings as frequently practiced cannot be too emphatically condemned. The days of pride in fat, flabby, overfed patients have passed, and have been replaced by a policy of attaining a gradual improvement in nutrition to a normal weight and a firm, healthy body tone.

The general rule for our guidance in nutrition is gradually to bring the patient back to normal weight and a little above, before the period of allowed exercise is reached, and to accomplish this without disturbing the digestion. A commonplace, well balanced diet of approximately 3,500 to 5,000 calories per day for an adult male is sufficient. In the early febrile stages, when the appetite, digestion and assimilation are poor, small and frequent feedings may have to be resorted to. Ordinarily, three normal meals a day with the heavy meal in the middle of the day should be adhered to.

The open air life has become an axiom in the treatment of tuberculosis, and from it has developed the modern appreciation of its value in the maintenance of general health and efficiency in the prevention of disease, and in the treatment of many other pathological conditions. The effect of open air upon the toxic symptoms of tuberculosis, such as fever, night sweats, poor appetite and digestion and upon the cough is often remarkable. Out-of-door sleeping is always desirable if possible, but the wide-open sleeping room usually produces equally good results, and in many cases is preferable because of personal idiosyncrasies.

The consensus of opinion of a large percent of men limiting themselves to tuberculosis work is that climate is not essential

to success in treatment. Everywhere, everyone agrees that it is *what* you do, not *where* you do it, that gets results.

Since tuberculosis is most successfully treated in sanatoria, when it is at all possible the person suffering from active tuberculosis should immediately enter a tuberculosis sanatorium. Where this is absolutely impossible, the only other alternative is to make one room of the home into a sanatorium unit. That is, to choose a room or porch with the maximum ventilation without exposure. All superfluous furniture, hangings and rugs should be removed, leaving only the necessary chairs, bedside table, dressing table and bed. The identical routine of a sanatorium must be strictly adhered to in regard to absolute rest, exercise, and diet. A careful record of the temperature, pulse and respiration must be faithfully kept. This should be made at 8, 12, 4 and 8 o'clock, as the variation of the routine depends on this. The patient and family must be instructed in detail about the safe handling and disposal of all the excreta. The only safe way of handling the sputum to protect the other members of the family is to use paper napkins to cover the mouth when coughing or sneezing to prevent droplet infection. A napkin should be used only once, then placed in a paper bag and burned. The sputum should be deposited in a paper cup especially made for this purpose and likewise burned. As I have tried to bring out before, enforcement of the routine is the prime factor in getting results. Of course many conditions and symptoms will arise during its course which will demand individual attention. In general, the wise plan is to meet them if possible by management rather than by medication, and at all times to keep remedies for special symptoms as simple and as few as possible.

Cough is probably the most constant and troublesome symptom met with. Absolute rest in bed with constant fresh air and a sincere effort on the part of the patient to suppress it will control a large percent of

coughs. In the very active stage when the sputum is profuse a certain amount of productive cough is necessary to clear out the lungs in the morning. Only when a cough fails to subside with the routine should opiates be resorted to. I prefer codein to all other forms of opiates, and this only in very small doses and of a limited number. The mild cough mixtures may be used if they do not disturb the digestion.

Digestive disturbances can be kept at a minimum by adhering strictly to the most rational, simple diet, avoiding over-feeding and carefully watching the elimination. The appetite may be stimulated by such simple bitters as *nux vomica*. Slight disturbances after meals may be relieved by the mild anti-acids, in some cases dilute hydrochloric acid and in others the digestive ferments.

Pleurisy is a very frequent complication and ranges from a slight discomfort to a severe stabbing pain. This is relieved by a counter-irritant and if severe, by partially immobilizing the lungs by strapping with adhesive.

One of the most persistently constant symptoms is fever, and for it our only safe control is rest. As slight a temperature as 99 degrees Farenheit by mouth demands rest. High temperatures are preferably relieved by sponge baths and alcohol rubs. Anti-pyretics, such as aspirin and phenacetin may at times be given but in my opinion more frequently do harm rather than good. Night sweats usually follow high temperature and are controlled in the same manner.

The popular idea that the patient will lose strength and weight if kept constantly in bed is both false and dangerous. Loss of weight and strength are only evidences of general toxemia and adjust themselves as the toxemia is lessened and the benefits of rest begin to bear fruit.

The treatment of a pulmonary hemorrhage depends upon its character and amount and is rather negative. Palliative remedies such as codein to quiet the cough,

liquid diet, preferably cold, calcium lactate and gelatine, with absolute rest seem to give uniformly satisfactory results. In severe recurrent hemorrhages, artificial pneumothorax may be resorted to on the affected side.

The treatment of the complications so frequently associated with pulmonary tuberculosis, such as pleural effusions, spontaneous pneumothorax, pyopneumothorax, tuberculous laryngitis and enteritis should be handled with due regard to the lung condition, and can not be discussed here.

Sun and light treatment has not been put on a sufficiently scientific basis to be called a treatment. In a discussion with Dr. Rollier in Leysin, Switzerland, recently, on the subject of heliotherapy, I will quote his exact words: "Sun is a very potent factor and to get satisfactory results must be handled with great caution." The artificial sunlight or lamps are also of questionable value.

Artificial pneumothorax has taken a definite place in the treatment of uncomplicated uni-lateral cases of tuberculosis but technique, indications and counter-indications are too complicated to discuss in this paper. Thoracic surgery offers some relief to those cases in which adhesions prevent collapse of the lung by pneumothorax.

Specific treatments in the form of chemical agents, such as the various salts of mercury, copper, gold, iodine and calcium, have had their day, but have been discarded as valueless. The various derivatives of creosote by inhalation and by mouth have also been discarded. In a very limited number of cases of a certain type, tuberculin judiciously administered has seemed to give satisfactory results. It has also been impossible to establish a definite place for the routine use of bacterial vaccines, sero-therapy, and organo-therapy.

The more cases of tuberculosis that I handle, the more convinced do I become that it is unjust to the patient to promise

him definite results in a given length of time, since every case is a law unto itself. In fact, it is almost impossible to define where the treatment of a case of active tuberculosis ends, and the after-care, which is equally as important as the treatment, begins. If the after-care is not as rigidly carried out as the treatment was there will be a relapse, which is more serious than the original attack. It is foolish and futile to spend large sums of money on the treatment of the tuberculous, only to have it largely wasted in the end through the lack of proper follow-up or after-care. As a rule, the return to the previous occupation is desirable, because it involves less strain and is more remunerative, thus providing for higher standards of living. Periodic examinations should be made whether symptoms are present or not, and the appearance of any, even slightly suspicious symptoms, should be immediately reported to the physician. Colds and acute respiratory infections should be carefully avoided and treated promptly.

In this brief outline I have tried to mention the salient factors that enter into the management and treatment of tuberculosis. It is greatly to be desired that many more physicians may become versed in the detailed management of tuberculosis, even though they do not specialize exclusively in this field. This would result in a much wider field of choice for the patient, and also diminish the far too frequent unfortunate results of unwise medical guidance. The personality of physicians should also be considered in recommending patients so that that of patient and physician may be mutually adapted to the acquisition of a close bond of sympathy and respect, which is equally as important as the physician's medical knowledge in the management and treatment of pulmonary tuberculosis.

DISCUSSION.

Dr. H. Boswell (Sanatorium, Miss.): Dr. Gowen has so well summarized the treatment of tuberculosis that I am only going to emphasize one or two things. The last paragraph of his paper ex-

pressing the successful treatment of tuberculosis describes leadership. The man who is successful in treating tuberculosis as we know it today must be a leader of his patient or patients in order to secure their co-operation.

We have no known medicine or serum or vaccine that has any material effect upon the course of this disease. The three things that we must depend upon are rest, food and air. Rest is the most important part, perhaps, of all of the treatment, and that means physical and mental rest. Mental rest is secured in direct proportion to the physician's ability to control this patient. Many people in my observation have been permitted during their period of high temperature and fast pulse to read, talk, receive visitors. To many reading is exercise, talking is exercise, and each individual must be dealt with on that basis.

There is one point on rest that Dr. Gowen did not mention and I am sure he did not have time, that we find very satisfactory in handling many patients. It gives them something to think about in addition to the actual good that may be accomplished. Patients coming in with a disease of one side of the chest, active at the time, running high temperature, are usually very uncomfortable if they attempt to lie on the diseased side. Yet from a physiological standpoint and the standpoint of treating tuberculosis they should always be taught to rest on the diseased side—as Dr. Webb calls it, "postural rest." By so doing they are splinting the diseased side with the mattress upon which they are lying and throwing the work of respiration on the good lung. In many cases this works beautifully and it is along the same basis of treating fractures.

Home rest versus sanatorium rest: rest at home is practically impossible for the reason that if it is a man he is studying about his business. He sees it being neglected and he is worrying, causing the consequent mental unrest. If it is a mother, she is worrying about Johnny or Mary crying about the place, or one comes in with a dirty face and she is worrying about that. So it becomes necessary to isolate them to secure proper rest, take them away, place them in institutions or places where they are separated entirely from business and home.

The other point that I want to speak of is one that Dr. Gowen mentioned very emphatically and that is the stuffing of patients, particularly as practiced today, the stuffing of raw eggs. One of the most harmful agents where it is used to excess and in many individuals where it is used at all. The albumin is digested in the stomach and if you give more than can be taken care of it is poured into the intestinal tract where it

remains a pure culture media for the existing organisms and we get a fermentative diarrhea which is very hard to control.

The only other thing I want to refer to is the value of climate in tuberculosis. Men who have spent a great deal of time in the last several years on the subject are now realizing that climate is merely a luxury and it is not an essential in the treatment of tuberculosis. If the patient is financially able and can be mentally aided by being placed in a climate where he is more comfortable than in his home climate, of course it is to an advantage to move him. But the thing that we are having trouble with today in this country is the medical profession prescribing a change of climate to people who are unable to finance themselves and the southwest today is overloaded with the people we are dumping on them with nothing but railroad transportation one way. We make sure that we don't give it two ways.

I hope that we get the idea in mind that tuberculosis can be successfully treated in any climate. Where the patient needs change, if he is financially able to do so, change him, but unless the finances are forthcoming to the extent, I believe they say now of \$1800 above the living expenses of his family, keep him at home among friends and where the responsibility of his life rests on his own friends and family.

Dr. S. E. Thompson (Kerrville, Texas): There are a number of very definite reasons why I am delighted today to come more than six hundred (600) miles for the purpose of taking part in the discussion of Dr. Gowen's paper. In the first place this is my mother's native state. In the second place I was born within a hundred miles of Monroe. In the third place the most valuable part of my medical education was secured within the domains of Louisiana. In the fourth place our own Dr. Wallace Durel was the first man to set my feet toward the city of Jerusalem so far as a correct knowledge of tuberculosis is concerned. He aroused me to the fact that every thing I thought I knew about tuberculosis was wrong and he replaced these errors with a correct knowledge of this disease and its management. I feel that his instruction seventeen or eighteen years ago has really been worth more to me than any previous or subsequent experience I have had.

Dr. Gowen and I have been working together for a number of years. In fact, he was with me when he began the study of tuberculosis of the lungs. I wish to compliment him on the excellent manner in which he has condensed this tremendously big subject: "The Management and Treatment of Pulmonary Tuberculosis." I wish

to add, that while I own and operate a tuberculosis sanatorium, located in one of our so-called health resorts in the Southwest, with Wallace Durel in South Louisiana and Charlie Gowen in North Louisiana, it will not be necessary for you to send your tuberculous patients anywhere.

By the management of tuberculosis, I assume that Dr. Gowen means the management of tuberculous patients. This is without question one of the most important propositions with which we have to deal. The patient is just as much a problem as the disease. To take a patient and keep him doing a definite and difficult thing month after month and some times year after year, is no easy task. A few years ago Dr. Herbert Maxim King, made the statement that tuberculosis was the most beneficent disease with which the human race is afflicted. That it is without doubt the world's greatest fool killer, that unless the patient had unusual intelligence, that unless he had the ability to get behind any kind of proposition and carry it out to a successful termination, he would have no chance to recover from this disease.

Dr. Gowen makes the statement that a complete knowledge of the exact pathology is essential in handling tuberculosis. This is true I grant you, but I wish to assure you that it is the most difficult thing to ascertain.

Located in our town—in addition to my own sanatorium—is a very large institution caring for about five hundred (500) patients. Whenever possible, we strive to check up our cases as to our findings by post mortem examinations. The patients are x-rayed up to as near the termination as possible and the interpretations written out. The physical examinations are made and the findings carefully stated. When a case comes to a post mortem, we have the written interpretation of the x-ray findings, the written interpretation of the physical examination and before us we have in the body, the cold blooded facts as to the pathology.

I wish to assure you that this work is very valuable, but at times very embarrassing. I know of no greater specific for egotism. The doctor who thinks he can make an accurate marginal diagnosis in pulmonary tuberculosis and state that the disease extends down to the seventh spinous process or the upper margin of the third rib, needs to attend a few post mortem examinations.

However essential this information might be there is no way for us to get it. No diagnostic means or method at our disposal will reveal this information. There is no way to determine the beginning and formation of the original tubercle in the lung. There is no way to determine to a

hair line, the extent of our pathology. We can only approximate it and you may be sure that your patient is always sicker and has more pathology than any examination will indicate.

The following case report will serve to illustrate this. The young lady was sent to us under the suspicion of tuberculosis. This suspicion was based on the fact that she tired easily with labor to which she was accustomed, there was a slight elevation of temperature in the afternoon and the pulse was a little rapid. A thorough physical examination was made with no definite findings. The x-ray findings furnished no evidence of this disease. We stated candidly that we could find no definite trouble, but suggested that the patient be kept under observation. The nurses were instructed to watch carefully for sputum in order that we might make an examination of this. In about two weeks there was a small particle of sputum one morning, which on examination revealed numerous tubercle bacilli. This patient drifted along for about six weeks and suddenly developed what appeared to be tuberculous meningitis and died. A post mortem was granted and revealed undoubted tuberculous meningitis. A careful search of the left lung showed no pathology. After a most diligent search of the right lung a small softening tuberculous mass about the size of a small pea was found just below the apex.

Cases of this kind serve to convince us that absence of proof is not proof of absence. When we fail to find a patient's trouble, and he still suffers from symptoms, we have no right to tell him that he is without disease and that he should go on and forget it.

In my judgment, the most important thing in the diagnosis of early pulmonary tuberculosis is TIME. Doctors are no longer expected to make a diagnosis in ten or fifteen minutes. It is unfair both to the patient and to the doctor not to require sufficient time for a complete study of all symptoms and a thorough analysis of the patient's condition.

Dr. Wallace J. Durel (New Orleans): I must say that I am glad to see after twenty-three years of experience in this line of work and especially attending meetings of the Louisiana State Society within the last twenty-three years or more, that tuberculosis has been a live topic of discussion at every meeting of the Louisiana State Medical Society.

I must say that Dr. Gowen has treated the subject of diet, rest and open air in a very thorough way. The flattering remarks of Dr. Thompson I must say are too flattering, however, I am proud of such a student as Dr. Thompson. It is stim-

ulating to the teacher, especially in my line of work, which is generally done within four walls without the spectacular gowns of the surgeon and the masters of surgery. It is done simply within four walls and you have to have stimuli of this kind.

I must say that the majority of us in the medical profession have not deviated very much from the Chinese treatment; in other words, we haven't gone any further than to tell a patient, "You know you must rest more and eat more and live in the open air," and that is as far as the treatment of tuberculosis goes with ninety percent of physicians. It is startling to think that at this time when so much voluminous literature has been given us that we haven't reached any further than that, as I say, in ninety percent of our ranks in the medical profession.

Fortunately, the scientific world has given us more and besides rest, diet and open air, there is much more to do. Rest, diet and open air is the basic treatment. Nothing will replace that. We will never do without it any more than you will do without rest in diphtheria where there is an absolute specific. You can't use antitoxin in the case of diphtheria and permit your patient to walk about. You can't introduce any treatment, however specific, in tuberculosis and permit your patient indiscriminately to walk about.

As auxiliary treatments, there are many. Creosote to me has been a great help in bronchial cases and the creosote therapy is as beneficial as it is old.

Next is the symptomatic treatment. Correct any deformity or malcondition existing in tuberculous patients. That is essential. From a tooth abscess to a liver abscess, it must be remedied first.

Calcium salts have given some benefit but intravenous use of calcium is no more essential than intravenous use of digitalis. As I was telling my classes the other day, it seems to me that intravenous use of medicine is becoming so that soon we will be giving castor oil intravenously. Calcium by mouth will give the same effect.

Tuberculin has been an old standard with me and I am glad to see this, the last report of the American Review of Tuberculosis gives a few words from my old colonel in the army in charge of the tuberculosis department, Colonel Bruns. He advocates tuberculin in the treatment of tuberculosis. It is not used in the army. See the last number of the American Review of Tuberculosis and you will see Dr. Bruns' opinion on that matter. I am glad that it has been mentioned.

Last of all, concerning opiates in tuberculosis, do without them entirely. When I took charge of the tuberculosis department of the Charity Hospital fourteen years ago I found that in one ward of ten patients they were using a quart of syrup of codein a week. I am sure that today with sixty-seven patients we don't mix a pint in six months. We get better effects. Remember that codein or any opiate increases the absorption of toxin.

Rest, as Dr. Gowen so ably has told you, is the essential thing—rest and rest. I remember once Dr. Minor at a meeting of the Southern Medical Association said that by excessive rest you might make your patients neurasthenic. I haven't seen it. It is much harder to keep the patient at rest than to keep him from exercising. When you tell him go, he is just like a race horse, he goes.

As far as climate is concerned, I agree with Dr. Boswell. Climate plays very little part. I must say as Dr. Thompson has said that it is very good to send our rich patients to the climatic resorts, but for us who are not in the climate resorts, to remain with the poor. We can make a living with the poor. And I say this, if climate is essential, let us stop all this talk of having institutions for tuberculosis in non-climatic resorts. But thank God, the climate is not essential and we can build our own tuberculosis sanatoriums and hospitals in our own wonderful climate of Louisiana. We can keep our patients outside 360 days of the year as well as any other part of the country. In certain institutions close to mine, I must say that there are no beds in the rooms. Therefore, that shows you if there are no beds in the rooms certainly patients can remain out 360 days in the year.

Dr. Homer Dupuy (New Orleans): In the care of tuberculosis we must not ignore the question of laryngeal involvement, for the reason that the lung condition may show marked improvement when invasion of the larynx will destroy all prospects of a cure. When the intralaryngeal structures are invaded hoarseness will be an early signal for trouble. We can then act promptly. But let me emphasize that when tubercular invasion affects extralaryngeal tissues, such as the epiglottitis, the arytenoids, there is little or no hoarseness. This form of invasion is so subtle and insidious, that when dysphagia sets in there is already profound involvement. Let us, therefore, hearken to the warning, that we can only avoid serious laryngeal tubercular invasion, when we shall adopt a routine examination of the larynx and its adjoining structures, say several times a month. Laryngeal tuberculosis, in its incipency,

is curable. A death from this cause alone is a reflection on our science.

Dr. N. F. Thiberge (New Orleans): There is one point that I am sorry the essayist didn't bring out better, and that is the value of artificial pneumothorax in certain cases. Anybody can perform that little operation at the bedside of the patient provided he has the manometer and provided he has the training in asepsis. Many times it is a life-saving procedure. In cases of repeated hemorrhages, where you can be sure that the hemorrhage is unilateral, where you can check your result with the x-rays, artificial pneumothorax often saves the life and in some cases can cure the disease.

Dr. Gowen (in closing): I won't take very much time. I would just like to mention Dr. Boswell, Dr. Thompson and Dr. Durel. I thank them for the discussion, and they covered a lot of points I failed to and didn't have time to cover. As Dr. Thompson said, the subject was very large and I merely mentioned the salient points.

As to Dr. Dupuy's discussion of tuberculous laryngitis, that is a thing that has given us all a great deal of concern. How to prevent it or how to treat it is not known other than rest. We have no other specific remedy. Pneumothorax is a thing that is most valuable in unilateral cases and I think that it is a little bit more difficult to give than the doctor might have given the impression, because if it is not handled properly it can be as dangerous as beneficial at times.

There are a great many points we could cover but for lack of time I will close.

VERTIGO;

ITS IMPORTANCE TO THE AURIST, OCULIST AND
GENERAL PRACTITIONER.

FERN CHAMPENOIS, M. D.,
HATTIESBURG, MISS.

The study of equilibrium and vertigo in their relation to the physiology of the labyrinth as well as the pathological symptoms arising from direct or indirect morbid influences to the labyrinth has appealed to me for some time, in fact every since I was in the medical service of the late war when the War Department found it necessary to give certain of us an intensive course on this subject that we might be

proficient in examining the potential aviator. But for this training in the army and the interest I have taken since, I would be no wiser than the general man. So it is that I ask of you who are very proficient in the study of the labyrinth to be charitable in your discussion, and to those of you who are not wise, just bear with me in the hope that I might impart something of value.

The labyrinth is divided into the cochlea which has to do with hearing, and the static labyrinth. The static labyrinth, composed of the utricle, saccule and semicircular canals is the main factor in maintaining body balance, and any stimulation of it, direct or indirect, whether from disease or not, will be followed by certain definite reactions, such as vertigo, vomiting, nystagmus, past-pointing and falling. Such being the case, it certainly behooves the aurist, oculist and general practitioner to know, from point of view of each, what diseases or influences might bring about such phenomena. It would be interesting to discuss the nerves tracts of the eight nerves leading from the static labyrinth and their association with other intracranial pathways, showing the normal reactions of static labyrinth stimulation and methods used, also pointing out the possible localization of brain lesions that interfere with the normal functioning of these tracts, but being too much for me, I will have to refer you to the works of Braun, Friessner, Isaac Jones and others.

Vertigo means a sensation that one is off balance with surrounding objects and indicates a definite disturbance of the static labyrinth. This disturbance might be direct or from some other part of the body. In any case, there is a minor feeling of dizziness with sometimes the more pronounced symptoms, nausea, vomiting, nystagmus, and even falling. Realizing that all vertigos are induced by a disturbance of the ear mechanism, I should think that the study and treatment of these cases would

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fall pre-eminently in the field of the well prepared otologist. However, neuro-otology being in its infancy, few are so prepared and we, with the oculist, can render aid only where the eye or ear are directly involved.

All of us are acquainted with the original five special senses, sight, hearing, taste, smell and touch, but what about the recent sixth and the still more recent seventh? Most of us know the sixth or muscle, joint and splanchnic sense by means of which the individual performs co-ordinate acts automatically and unconsciously, but how many of us know the seventh, or, as termed by Isaac Jones, the kinetic-static sense? The kinetic-static sense, like the other special senses, depends on an end-organ, the static labyrinth for the reception of stimuli, on a nerve to convey the stimuli, the eighth, and on a nerve-centre to interpret their significance; this is done in this case here by an interpretation of proper balance and when disturbed of vertigo.

Realizing that the ear, in a way, is a special sense for balance, should throw more light on the importance of this organ to the general practitioner, because he, more than any other, is constantly consulted by these cases of vertigo, and I dare say that nine times out of ten he does not know the clinical significance of their connection with the labyrinth. To the average physician these dizzy attacks are due to the liver, stomach or intestines, and if calomel does not relieve the attack, he is usually at a loss to account for it. A great many times the mercury corrects the toxemia that is indirectly disturbing the static labyrinth, but a knowledge of the *modus operandi* is certainly of value. If the calomel does not relieve, the doctor, more or less, rightfully refers the sufferer to an oculist for glasses. I say more or less rightfully as I believe that these cases should first go to the aurist. If the glasses fail and the trouble gets worse, the ear man or the neurologist will get a chance at the victim. And here is

where the proficient ear man can render valuable service, if the vertigo is induced by a direct and local disturbance of the ear mechanism. As this disturbance is caused by a middle ear suppuration, local or operative treatment will usually give the desired results.

The otologist, if he desires and is willing to equip himself with a Barany chair, which is for the purpose of testing the static labyrinth, could soon become proficient in the analysis of the symptoms of diseases arising from disturbances of the internal ear and its associated intracranial pathways and render valuable aid to the neurologist just as the oculist does when certain palsies of the eye muscles indicate interference of the nerve pathways from the eye.

The general practitioner is not directly interested in vertigoes caused by an eye or an ear influence, but he should, most assuredly, understand the others and their clinical significance. Those vertigoes that should be of interest to him are caused by cardiovascular lesions, toxemias and lesions of the brain affecting the intracranial pathways of the labyrinth.

Isaac Jones in his wonderful book, *Equilibrium and Vertigo*, condenses the causes of vertigo into five classes and says that vertigo may be induced by the following: 1. Involvement of the ear-mechanism by a lesion in the ear itself. 2. Involvement of the ear-mechanism by a lesion affecting the intracranial pathways from the ear. 3. Involvement of the ear-mechanism by ocular disturbances through the eye-muscle nuclei and association fibers. 4. Involvement of the ear-mechanism by cardio-vascular disturbances. 5. Involvement of the ear-mechanisms by toxemias from any organ or part of the body.

Every physician should be familiar with all five of these classes, but the ear man especially so with the first, as this usually means an extension of a chronic suppura-

tive otitis media to the labyrinth with a possible fatal ending from one of the labyrinthial infections. So it is that I would warn the general practitioner to be suspicious of a vertigo that is associated with a chronic ear discharge. Vertigo of class two, due to lesions within the brain, such as tumor, thrombosis, abscess and gumma lies in the field of the neurologist, but it should be a source of great satisfaction to the aurist to realize that with the proper preparation that he could just as well handle these cases. The ocular conditions that produce vertigo of class three are of course treated by the eye man, but then he should realize that the eye is not mainly the organ of balance, being only one of the triology, the other two being the static labyrinth and the muscle sense, and that of this triology the static labyrinth is the most important. The eye can be rendered blind and no vertigo follow, but just a slight stimulation of the static labyrinth and one is made very dizzy. Cardiovascular disturbances of class four causing vertigo are those conditions which produce a congestion or an ischaemia of the brain which at the same time affects the static labyrinth. The toxemias of class five that produce a vertigo are ptomain poisoning, alcoholism, poisoning by chemicals, as lead, quinine, and etc. These toxemias act either through the circulation or definitely affecting the internal ear or its pathway.

In conclusion, I would like to impress you with the fact that vertigo from whatever cause, is a disturbance of the static labyrinth, that an ear man, properly prepared, can analyze disturbance of the vestibular apparatus, and that cases of vertigo may need no longer be considered vague and mysterious symptoms, but indicate, as a rule, some definite pathological influences.

DISCUSSION.

Dr. George Adkins: My discussion will be very brief, because the first three things mentioned there are located in the ear. I feel that they do not stand out as prominently as the cardiovascular conditions and the toxic conditions. We all know you can take a person with high blood pressure

and will find a shaky gait. You can take a person with a presbyopia—I have had the experience—and you get some little waviness in the gait. Those things we all grant. Now, dealing with an x-ray, and doing some work along that line, has led me to this, with a few other little experiences. I used to get a case like this and treat him indefinitely, and some surgeon would get hold of him and remove a tumor or a gall bladder and the dizziness left.

The toxic effect on the labyrinth certainly does account for a great deal of it, and it is the one thing that links use again right square up with general medicine, and we can't get away from it.

It ought to impress the fact upon us, that the fellow who narrows himself down from the shoulders up is going to fall down on a lot of these cases. It certainly should be worked out from a general medicine standpoint as well as from an ear standpoint, because a great deal of it is due to abdominal conditions, and especially a distended gall bladder or toxic colon. I enjoyed the paper very much.

Dr. John J. Shea: The study of vertigo from a purely labyrinthine standpoint is a trying and a speculative condition. In 1916, I took my first course, and, as someone said here a few minutes ago, I didn't get anything. We took about three months in it, and at the end we didn't know much. But in 1917, the University of Pennsylvania opened a course under Doctors Jones and Fisher, and then immediately afterwards came along the war, and for seven months practically all I did all day long was Barany's, and I began to think I knew a little about Barany's, but the more I saw it applied in clinical cases the more I began to appreciate that it is not all as it is talked. Some of the cases that looked like a cerebellar tumor turned out to be a gall bladder, and some that apparently do not give any result turn out to be a brain tumor. For instance, the only case in my life I ever saw of a double cerebellar tumor occurred in a girl we did repeated Barany's on and never picked up the fact that she had a cerebellar tumor, when she had two of them, one on each side. So, corroborating what Dr. Adkins said about the gall bladder, there are certain selected affinities of certain nerves; and there is a marked affinity of biliary toxins for the eighth nerve. As Meckles has a tendency for the nerve of the forearm, so biliary toxins have a positive affinity for the eighth nerve.

I saw a case only recently in a girl from whom no reaction could be obtained. We did a spinal Wassermann, and her Wassermann was negative; and we did a gall bladder on her and she immediately cleared up. Really, I believe that we all ought to do Barany's, and all ought to

be profited who read the definite fixed principles that Doctor Jones in his book—I say this with real heartfelt sympathy, because I read proof on that book—would want us to believe. It is an adjunct. It certainly is one more help to the neurologist and general diagnostician that the ear man can give.

Dr. E. F. Howard: I think the most of us who made our first study of vertigo in the army got the idea that there is nothing much to this thing at all. Of course, we were not looking for diseased men; we were looking for normal men, and if a man was abnormal they promptly canned him. They were very rigid and definite and close-cut regarding what could pass and what could not pass, and we found out before we had gone very far that those rules were all Tom-foolishness. The unit with which I worked did all that work for Ellington Field, in Texas, and they sent us up there men who would sit in the chair like a log of wood without any response at all, and yet those men could go up in the plane and juggle it like a juggler tossing balls. Regarding the use of it, the men in the hospital, the general run, very seldom came to us; in fact, I think I can recall only one class of cases, that was alluded to by Dr. Shea. Very occasionally we would get one of these fellows, and we didn't get so many men of that type, because the men down there had been examined before, and were supposed to be pretty good men.

Dr. Champenois (closing): Gentlemen: I appreciate your interesting discussion and would like to remark to Dr. Shea that as there is no part of medicine that is exact, one could not expect as much from the recent research work on the labyrinth. My chief purpose in presenting this paper was to bring forth the fact that the static labyrinth is the seat of equilibration, also that any stimulation thereof, direct or indirect, would produce a vertigo which properly interpreted would aid the diagnostician in locating the cause. I thank you.

SWIMMING BATH CONJUNCTIVITIS.*

CHAS. A. BAHN, M. D.,

NEW ORLEANS.

Epidemics of a definite and characteristic conjunctival inflammation caused by bathing usually in crowded public tanks, have been repeatedly reported in various parts of the world during the past twenty-five

years. Practically the only report of its occurrence in this country is by Gradle in 1916. The characteristic features of the disease as described by Paderstein, Comberg and numerous others aside from its invariable occurrence, seven to fourteen days after bathing usually in an overcrowded public resort, make its positive diagnosis relatively simple.

During the past two summers Dr. Smith and I have treated, in private practice, at least thirty-six cases, twenty-four in 1925 and twelve in 1926, the diagnosis of which is beyond question. The condition is therefore much more frequent in this community and probably in this country than our ophthalmic literature would indicate. The profession and public should be better informed concerning an infection which is largely preventable and which involves the popularity and safety of public bathing, one of our greatest means of recreation, physical exercise and pleasure during the summer months.

Following a seven to fourteen day incubation period, the lids, especially the upper, becomes thickened, the palpebral opening smaller, and the conjunctiva much swollen and inflamed. The number and size of the follicles are especially increased, the preauricular gland is enlarged, and slight mucoid secretion is discharged. The height of the inflammation is usually reached within one to two weeks and within a month the eyes are ordinarily but little worse for the disease. The follicles persist occasionally, as in one of our cases, for practically a year, the palpebral opening remaining smaller. In the past two years practically all of our cases have occurred during the month of July. Eight of our thirty-six patients were females. In twenty-six of our cases but one eye was involved, illustrating a rather marked monocular character and slight contagiousness.

The bacterial findings in our patients examined were uniformly negative for a causative organism. They contained at

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most a few of the ordinary pus organisms of insufficient number and uniformity to be causative. That the contagium is postively none of the known organisms is generally accepted. The only characteristic laboratory finding is the increased frequency of the inclusion bodies of Prowazek and Halberstaedler which are also found in trachoma, some cases of infantile ophthalmia, etc., and whose significance is not known.

In the transmission of this infection there are three dominant factors: individual sensitiveness to the infection, contact with the contagion, and slight trauma or increased pressure which favors prolonged contact and growth of the infecting organism.

Even under unfavorable conditions of overcrowding, but a small percentage of bathers contract the disease, showing that individual immunity plays an important role in the prevention of wider distribution. None of our 1925 patients returned with the same condition in 1926, suggesting that they had established an immunity or were not exposed again to the contagium. Some persons are extremely sensitive to this infection. They not only develop a severe conjunctival inflammation but co-incidentally a febrile reaction and a similar infection of the upper respiratory passages, often including the sinuses and eustachian tube as well as an acute inflammation of the external urinary canal. This was rather forceably illustrated in one of our patients. We have seen no infected colored patients, they being relatively immune to trachoma which swimming bath conjunctivitis closely resembles.

The infectious material apparently comes from previous bathers, water acting only as a transmitting medium. The condition occurs only where a relatively large number of persons bathe in a small amount of water or in very slowly moving water, as seen in Lake Ponchartrain. The infectious material probably is either human epithe-

lium with attendant bacteria, of which there is no evidence in the conjunctiva of the infected or other bodily secreta, or excreta of which the urine is the most copious and common. The number of persons who urinate while bathing is much greater than most of us imagine, probably due to the irritating effect of water on the external genitalia. I have been repeatedly told that it is generally conceded by those most familiar with the subject that about fifteen per cent of males and seventy-five per cent of females urinate while bathing, which statement is hard to verify. We know, however, that in the new born a rather frequent form of conjunctivitis which has rather similar clinical characteristics may be produced by contact with urine which does not contain gonococci.

There are a group of ocular affections of undetermined origin which have more or less the same clinical characteristics, including a relatively long incubation period and course, marked folliculosis, tendency to healing with cicatrization, marked preauricular enlargement, and absence of organisms in sufficient quantities to be causative. They are swimming bath conjunctivitis, trachoma, certain conjunctival inflammations in the new born, and those forms of Parinaud's conjunctivitis associated with animal contact. Is it not possible that they all have a more or less common cause in some group of vegetable or animal parasite, possibly the latter, which at least frequently is found in the secreta or excreta of man or lower animals and which may be immediately contagious or become so within a very short time.

The exciting cause which facilitates the growth of the infectious material on the sensitive mucus membrane, is probably a very slight conjunctival or corneal abrasion, or simply the increased pressure on the eye caused by swimming or diving especially with the eyes open.

Treatment of course includes the avoidance of public baths by the infected dur-

ing the remainder of the season because of possible infection to others and similar affection elsewhere in the body, especially in the noses and sinuses and genitalia. Avoidance of basins, towels, water, soap, and pillows used by others for at least two months should be emphasized.

Two types of treatment are in use. One is based on the resemblance to trachoma, and therefore includes the use of silver in organic or inorganic form during the acute stages of the disease, and mercurial preparations, preferably with massage in the later stages. The other treatment is based upon the use of quinine as a protoplasmic poisoning, ethyl hydro-cuprein, (optochin). In our experience there has been comparatively little difference in the merits of the two different methods. Personally I prefer a freshly prepared 1% optochin solution used hourly combined with a 1-3000 bichloride ointment applied two or three times daily to prevent lid adhesion.

The prevention of this disagreeable and possibly serious affection lies in the sanitation of public bathing resorts. Over-crowding and urinating while bathing are probably the major causes. A minimum of fifteen gallons per bather, fortified by chlorine, preferably introduced in a mixing chamber to the extent of 1 mg. per 1 L.; the use of a thorough preliminary scrub and shower; the thorough scrubbing of tanks once or possibly twice weekly; and the instruction of the public concerning the frequency and harmfulness of urinating while bathing, will greatly reduce the periodic attacks that yearly occur. Those who are especially sensitive to this type of infection should avoid public bathing resorts, and when more than one in five hundred bathers in any resort become infected preventative measures should be promptly taken.

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DISCUSSION.

Dr. V. C. Smith: Dr. Bahn and I have been interested in and studying these cases of swimming tank conjunctivitis for the last two summers. His paper has covered the subject so thoroughly that there is not very much for me to add. There are, however, several facts of interest that I thought it would not be amiss to emphasize.

First: In most cases the infection did not develop until about the sixth or seventh day after the patient had been in the pool (rather exposed), which is rather a long period of incubation, the usual case of gonorrheal infection making its appearance in twenty-four hours, and pink eye in a very much shorter time than seven days.

Second: While the disease resembles in a great many respects the ordinary case of pink eye, and in some of its aspects trachoma, it is not like either one in its symptoms, prognosis, duration or treatment. The marked follicular condition, the rather long treatment, is entirely different from the ordinary history of pink eye, yet the complete cure without any complications corresponds to the history of the average case of pink eye. The marked follicular condition, or conjunctivitis, often suggesting trachoma on first examination, is negated by the absence of all other symptoms, namely: thickening of the tarsus, scar tissue formation and cure without complications, that is, practically in every case. The disease, as a rule, lasts much longer in its treatment than the average case of pink eye; the treatment and cure is much less severe and shorter than trachoma, if it is possible to say a case of trachoma is ever cured.

Third: It has all the ear marks of a specific infection and yet, like trachoma again, so far no organism has been isolated that we can say is the cause of the disease.

Prevention, of course, is the chief problem of this condition, and, where swimming pools are frequented by large masses, one that must be solved by the health authorities, co-operating with those who manage the pools.

Dr. J. E. Dupuy: As Dr. Smith says, Dr. Bahn has covered his subject so completely, going into diagnosis, symptoms and treatment, that little can be added in that respect. There is one thing in his paper which tallies with my experience, viz: that he saw in 1925 twenty-five cases of swimming tank conjunctivitis and in 1926 only about twelve cases. In my practice, while the number was not so great, the proportion was the same; I saw about six cases in 1925 and two or three in 1926. I must say, however, that in my series of cases I doubt whether they were real swimming tank conjunctivitis. There was not so marked folliculosis, but the infection was not as severe and did not last so long, the average duration about eight to ten days. The incubation period, according to my records, was difficult to determine definitely as most of them had been in swimming every day and some of them had probably continued to go in the pools for two or three days after becoming infected and before coming to my office for treatment. Among these infections I saw more from the City Park Pool than from the other swimming tanks.

Dr. Bahn is to be congratulated on bringing this subject up. It is a matter which all doctors and health officers should give some thought and study to; a matter on which we should advise our friends and patients and, on the slightest symptoms of the disease, the doctor ought to send that case to an oculist.

Dr. W. R. Buffington: I treated quite a number of cases of swimming tank conjunctivitis last year, but have not seen any this year. I was struck, of course, by the long period of incubation. From these patients pretty accurate data was obtained. Especially interesting was one of these cases in whom the incubation period was two weeks. There was no uncertainty about the time as he had been in the tank but once; it was two weeks after that, almost to a day, before the infection made its appearance. He ran a typical course, slow to cure, with that tendency to relapse noticeable in all of these cases if you do not keep hammering away at them. A majority of the infection came to me from the City Park Pool.

A striking thing in these infections is the numerous amount of subconjunctival hemorrhages.

In one case there was subcutaneous ecchymosis of the eyelids. Another striking thing is that it is not very contagious. I saw but one instance where the evidence from contagion from patient to patient seemed positive—a child contracted the disease from his father. He ran a severe course with associated ecchymosis of the lids. In the cases I treated there were no serious complications, they all got well and have remained well as far as I know.

Talking about the etiology, I think there is a new field being opened up and that is to study the phagocytosis of the epithelial cells of the conjunctiva. Epithelium of the conjunctiva certainly does exercise a phagocytic action as does epithelial and certain connective tissue cells in other parts of the body.

The infecting organism of the peculiar diseases of the conjunctiva, such as trachoma, swimming pool conjunctivitis, and inclusion blennorrhea, sometimes will be discovered. I believe the organism found will be of the intra-cellular type. Such bacteria as pneumococci and gonococci undergo disintegration when ingested by the epithelial cells. May we not venture the opinion that the germs incident to the diseases just mentioned thrive on cell cytoplasm, instead of becoming destroyed as other micro-organism, by the process of epithelial phagocytosis? Our present methods of making smears and culture from the conjunctival sac is next to worthless.

Dr. W. H. Knolle: Would the use of an eye wash or a proper per cent of argyrol instilled immediately after the swimming, or as soon after as possible, prevent the frequency of that disease? What do you think of it as a prophylactic measure?

Dr. Chas. A. Bahn (closing): I am glad that the discussion has again brought out that the cases reported represent a definite clinical entity and were not the ordinary catarrhal conjunctivitis of bacterial origin.

Any mention of the particular tank in which the infection was probably contracted has been avoided because this could do no good at the present time.

Dr. Blackshear's discussion was of especial interest because I believe that external and middle ear infection as well as that of the eustachian tube and sinuses received in swimming tanks is greater than usually believed.

Replying to Dr. Knolle, we unfortunately have no specific remedy nor prophylactic drugs for this disease. The incidence under ordinary conditions is usually not sufficient to justify the routine use of prophylactic eye drops by all bathers. Under exceptional circumstances, however, this might be worth while. If I were exposed to probable infec-

tion I would use one or two drops of a freshly prepared optochin solution hourly for one or two days.

We have been having this condition for years and will continue to. We can, however, limit it to the extremely sensitive who constitute but a small percentage of those infected.

If the public and those in charge of swimming tanks could, in a common sense way, be interested and instructed, as mentioned in the paper, concerning the uselessness and inadvisability of urinating while bathing the number of those who will become infected next July will be materially reduced.

THE CORRECTION OF ESOTROPIA WITH GLASSES.*

ALBION B. CROSS, M. D.,
CROWLEY, LA.

In the discussion of the correction with glasses of esotropia or convergent strabismus, commonly known as cross eyes, when due to hyperopia, a brief review of the gross anatomy of some of the structures of the human eye should be made. The muscles of the eye are the four recti, two oblique and the ciliary.

The principal action of the recti muscles is as their name indicates, and, co-ordinating with the superior oblique in rotating the eyeball inward and downward, and the inferior oblique in rotating it outward and upward. The ciliary muscle possesses the function of accommodation, permits the variation in the degree of convexity of the crystalline lens, which enables rays of light to focus, so as to produce sharp and distinct images on the retina. The nerve supply of the muscles of the eye is a most important factor in the discussion of esotropia or cross eyes. The third cranial nerve supplies all the above named muscles with the exception of external rectus which is supplied by the sixth cranial and the superior oblique by the fourth cranial.

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

The coats of the eye are as follows: Three superimposed, enclosing three refracting media, or, so-called humors. The coats named from without inward are: a fibrous, a vascular and nervous coat. The refracting media enumerated from before backward are: The aqueous humor, crystalline lens and the vitreous humor. With the review of the anatomy before us, your attention will next be directed to the etiology of esotropia, which has occasioned much discussion, and even at this time is not a settled question.

In general terms, the factors which have been considered important in the causing of esotropia may be summarized as follows:

First—Disturbance of the relation between accommodation and convergence by error of refraction.

Second—Inequality in the vision of the two eyes, or ambyopia of one eye which removes the natural stimulus diplopia, to exact convergence.

Third—Disturbance of innervation and defective development of the fusing faculty.

The first cause mentioned, that is the disturbance in the relation of accommodation and convergence, is the one that will have our consideration. Convergence is the power of the internal recti muscles especially to turn the eyes to the median line; to fix an object closer than 20 feet. Normal eyes, when looking at an object 20 feet or more, are not supposed to converge, the vision lines being parallel, and the power of convergence in the state of rest. Accommodation takes place by the action of the ciliary muscles which encircle the crystalline lens and draws forward the inner layer of the choroid and hyaloid membrane, the suspensory ligaments being relaxed, and the lens, by its own elasticity, allowed to assume a greater convexity, especially its anterior surface, thus increasing its refraction. Some latitude of movement is possessed by both accommodation and convergence separately; but a limit to the

independent exercise of either function exists, beyond which neither function can operate alone. Thus a hyperopia of 6D would require an accommodation of 6D to neutralize it, the visual lines being parallel. This is rarely possible. Some meter angles of convergence will usually accompany the accommodative effort. The point of convergence is then nearer than the point accommodated for, constituting a convergent squint.

Hyperopia is, therefore frequently accompanied by convergent squint, and following squint or cross eye, diplopia develops only for a short time, in the beginning of the squint and soon disappears because the patient learns to withdraw his attention from the impression conveyed by the squinting eye; he "excludes" or "suppresses" the image with this eye. The act of exclusion is a psychical act; the squinting eye really does see, but the visual perceptions set up by it do not excite attention,—just as many men are able in looking through a microscope with one eye, to leave the other open, and yet not see with it. As a result of this act of exclusion, a patient with squint has mere monocular vision, soon following this; amblyopia develops in the squinting eye, because in this case the perception of the retinal images in this eye is suppressed, and the eye is thus purposely excluded from participation in the act of vision. In such cases, the retina, owing to lack of exercise, fails to attain to that delicacy of function which belongs to normal eyes, or the functional capacity which has been already acquired is gradually lost; but absolute blindness never occurs. When the condition is allowed to go over a period of months, the function of the retina never again become perfectly normal. The earlier the case is seen by the oculist, the more readily the retina will respond to the vision given by properly fitted lens.

By refraction of the eye is meant its optical adjustment with the eyes at absolute rest; that is, in the absence of any accommodative effort.

The optical adjustment of a normal eye is correct; that is, parallel rays passing through the refraction media of the eye, focus upon the retina.

By hyperopia is meant, parallel rays falling upon the cornea theoretically coming to a focus behind the retina.

It is assumed that nearly all new-born babies are ametropic and only a small percentage develop into absolutely normal eyes. Statistics gathered by Tenner give the following: Out of four thousand eight hundred school children the proportion of emmetropes, or normal eyes, was found to be as follows: zero at the age of 5 or 6; $\frac{1}{2}$ to 1% before 9; and 7% at the age of 12—average of 4%.

It is the hyperopic eye to which your attention is directed. How does this condition cause esotropia or convergent squint? The hyperope who develops squint is placed in the following dilemma: If he wishes to see distinctly he has to make too strong an effort of accommodation, but he can do this only by putting forth an excessive convergence, so that he sees double, or, in other words, an impulse from the brain over the third nerve to the ciliary muscle, also goes to the internal rectus, causing a contraction of this muscle, and a squint, for both these muscles are supplied by the same nerve. But if he converges only so much as is necessary without squinting, he cannot bring the proper amount of accommodation into play, and hence sees indistinctly. He is, therefore, given the choice of "seeing distinctly and double" or "seeing single and indistinctly." As a rule he prefers the former alternative, whenever from the fact that the image in one of the eyes has grown indistinct, diplopia is made less disagreeable to him.

TREATMENT.

The correction of the error of refraction in esotropia as well as all disturbances of the motility of the eyes is a very important element in the treatment, and may alone

suffice to effect a cure, especially when the deviation is of periodic, or alternating type. Here it is necessary in a large majority of cases to correct the whole hyperopia and astigmatism present, as found under atropine and instruct the patient to wear the glasses all the time. It may well be stated that in a case where glasses effect only a partial cure in continuous squint that the reason is that they eliminate simply the accommodative element, thus, in a hyperope, with combined convergence-excess, and divergent-insufficiency, they eliminate the former only, so as to convert the deviation from a continuous to a periodic one. Later, to be sure the residual divergent-insufficiency may diminish or even disappear, the very relief of the strain on the convergence may diminish, also the tendency to divergence inhibition.

Since esotropia from errors of refraction begins early in life—from one to four years, and the amblyopia ex anopsia has its beginning soon after the squint, or cross eye, develops, it is necessary to get the patient early, as soon as possible after the squint is observed, that is if the child is old enough to wear glasses, and here is where the responsibility lies upon the general practitioner, for in the large majority of the cases, the family physician will see the child soon after the cross eye has manifested itself.

If this paper serves no other purpose than to impress you, the general practitioner, with the fact that a large percentage of these cases in young children when properly fitted with glasses, will correct the cross eye and prevent a partial loss of vision—I will feel that my efforts have not been in vain.

REPORT OF CASES.

No. 1, W. C., white, male, age 4 years, brought to my office by his father, who stated that his left eye would cross at times. Diagnosis was made of alternating esotropia, more constant in the left eye. One per cent atropine sulphate was ordered, one drop in each eye three times a day and the patient requested to return on the following day,

at which time his vision being right eye 20/100, left eye 20/200. After examination with the retinoscope, his full correction was found to be right eye plus 2.50 sphere, left eye plus 3.25 sphere, which was prescribed and with which he sees 20/20 R. L. and completely corrects his esotropia and with which he gets binocular single vision.

Case No. 2. C. S., white, female, age 12, came to my office wearing glasses, complained that her eyes would cross at times. Diagnosis alternating esotropia, more constant in left eye. One per cent atropine sulphate was ordered, one drop in each eye three times a day and patient requested to return on the following day, at which time the vision was right eye 20/200, left eye 10/200. After refraction with the retinoscope her full correction was found to be right eye plus 2.25 sphere, combined with a plus 1.50 cylinder axis 90. Left eye plus 2.75 sphere with plus 2 cylinders axis 90, which was prescribed and with which she saw one month later, right eye 20/15 minus 3, left eye 20/30 plus 4, at which time it was determined that with this correction being worn, the squint in the left eye is almost completely recovered, and with which correction she gets binocular single vision.

Case No. 3. D. S., white, male, 2 years 9 months of age. Father states that child's eyes would cross occasionally. Diagnosis alternating esotropia periodic. The routine of atropine was ordered and on the following day examination with the retinoscope demonstrated an error of plus 9 sphere in the right eye plus 9.50 sphere in the left eye. In this case I varied from my rule in that I prescribed only plus 6 sphere in the right eye and plus 6.50 in the left eye, as I felt that the above correction would be sufficient to correct his esotropia, inasmuch as I had seen the case early. Child seen three months later and his parents report that he wears his glasses constantly and that his eyes do not cross while his glasses are being worn. At his age I was unable to demonstrate positively that he has binocular single vision with his correction worn.

DISCUSSION.

Dr. H. Dickson Bruns (New Orleans): There is very little to discuss in the paper that the doctor has just read because he has covered the ground very thoroughly. Maybe from long practice in teaching men who have had no other knowledge of the eye than the polite knowledge they gathered in the general medical school, I could make one point clear and impressive.

The reason that we can relieve internal strabismus with glasses is because that is the most common form of squint in people who have farsighted eyes. That is a very bad word in English

because a man who has a very farsighted eye doesn't see very well at a distance and he doesn't see well nearby, but there is no other English word to designate the man who is the opposite of nearsighted. That man, because the eye is too short to hold the focus of his lens in a state of rest, has got to keep his muscle of accommodation (the circular muscle which relaxes the lens and allows it to assume a more globular shape and therefore to shorten the focus) under tension all the time.

Now it is impossible to innervate the muscle that makes the lens more convex without at the same time innervating the internal recti. The two things have been developed together and are inextricably connected. Therefore, if you relax all effort of the circular accommodating muscle you diminish the innervation of the internal recti, and having diminished the nerve impulse to the internal recti the other muscles of the eye have a better chance to hold the eye in a correct position to maintain binocular single vision.

It is quite evident that if we are to undo a fault like this in innervation we have to take the subject quite young, because when these nervous paths get thoroughly established you can't undo the evil that has been done. But if we take children very young, who show a persistence of squint, and I say persistence because you know there is a time when all infants squint. They can't direct and hold their eyes in a proper manner on a single point in front of them; they all wobble their eyes about in the effort. But if by eighteen months or two years it is evident that the child is beginning to turn one eye or the other eye in as a practice, that is the time to interfere.

It is easy to tell whether you are going to succeed with glasses. All glasses can do is to suspend the accommodative effort. You can suspend all accommodative effort with a solution of atropin just as well as with glasses and perhaps better. If you are going to be able to relieve that child, therefore, its squint will disappear if it is atropinized. A squint that does not disappear under the use of atropin is not going to disappear under the use of glasses. That is self-evident because you remove the temptation to excessive innervation of the internal recti by relaxing accommodation, and you can relax accommodation more thoroughly with atropin than with glasses.

There is one other point I think ought to be emphasized. Students, those who are learning, will cut down the glass to bring the eye up to a theoretical normal in its focusing capacity, *i. e.*, to give good vision. The minute you do that, the minute you diminish by anything at all the glass that makes accommodative effort absolutely neces-

sary, that minute you are giving up the whole fight. You have got to make the child use what we call the full correction; that is to say, a glass strong enough to put the focus on the retina when the eye is entirely relaxed. If you take off a percentage of that glass then the child has got to make up by an effort of accommodation for that lack in percentage. The minute it does that it innervates excessively the internal rectus and that is just what you want to avoid.

If that is true of ordinary spectacle glasses, it is ever so much more true if you find that the child is a stigmatic, that is to say, has more defect in one plane of the eye than it has in the plane at right angles; it is clear if the eye differs considerably in two planes at right angles to one another, you can never get an accurate focus unless you supply that difference between the two planes with the glass. Now there is only one glass that supplies that difference. If you subtract anything from that glass the difference is not supplied and you have the same defective eye; an astigmatic eye.

You have got to give a full correction, therefore, in these little children or you better let them alone. This thing of putting glasses on them that only partly corrects their trouble is perfectly useless.

In all these cases you will need the active cooperation of the parents, because it is the parents that have to watch the child all the time and see that it wears its glasses and wears them properly. After it has worn the glasses, been compelled to wear them for a little while, I know by experience even little bit of things three years old, two years old, will clutch to their glasses when they get up in the morning before they do anything else. They have experienced relief and benefit and they want to put them on.

THE CLINICAL VALUE OF EHRlich's ALDEHYDE REACTION.*

MY IMPRESSIONS AFTER FIFTEEN YEARS EXPERIENCE WITH THE TEST IN OVER FIFTEEN THOUSAND URINE EXAMINATIONS.

ALLAN EUSTIS, M. D.,
NEW ORLEANS.

In a paper⁽¹⁾ read before the Louisiana State Medical Society in 1912, I attempted to stimulate interest in Ehrlich's aldehyde test by a report of 363 cases in which the test had been used, 76% of which showed

*Read before the Orleans Parish Medical Society, October 25th, 1926.

a negative reaction and 24% a positive reaction. Since then the test has been used in my laboratory as a routine in the examination of each sample of urine. My records show that since Jan. 1st, 1915 to Oct. 1st, 1926, there have been examined 15,589 specimens of urine, and I therefore feel that I have had sufficient experience with the test to form a definite opinion as to its clinical value. The results of the test are recorded as negative, 1+, 2+, up to 8+, and, inasmuch, as the readings are made by the same technician the results are more constant than in most laboratories, while the progress of liver improvement after injury to this organ can very readily be followed from the urine reports, although it is in no way a quantitative test.

Recently Wallace and Diamond⁽²⁾ have devised a very simple quantitative test dependent upon the repeated dilutions of the urine in which the test is positive and the results recorded as 1:20; 1:40; up to 1:1000, according to dilution.

REAGENT.

The reagent consists of 2 gms. of paradimethylaminobenzaldehyde in 100 cc. of 20% hydrochloric acid solution. A positive test depends upon the presence in the urine of a colorless chromogen, urobilinogen, which reacts with the reagent forming a definite rose dye, with its characteristic absorption bands in the spectroscop between D and E. Inasmuch as urobilinogen readily oxidizes to urobilin, which does not give the test; freshly voided samples should be examined.

TEST.

Heat hastens the appearance of the pink or red color, and for this reason, in my laboratory this reagent is used to acidify the urine, in testing for albumin by heat, the two tests being carried out simultaneously. If albumin is present this can be filtered off or allowed to settle before reading. To 3 cc. of boiling urine in a small ($\frac{1}{2}$ inch) test tube is added three drops of the reagent, and in the pres-

ence of urobilinogen a rose red color appears at once. The urine is then diluted to determine the varying intensities of pink color obtained on dilution and the results recorded.

INTERPRETATION OF TEST.

Normal urines contain small amounts of urobilinogen, which is not sufficient to be detected by the naked eye but can be detected with the spectroscop. Little clinical significance can be placed in a reaction under 3 +, corresponding to 1:150 in Wallace and Diamond's⁽²⁾ scale, but a reaction above this has definite clinical significance, while one of 6 + (1:1000, Wallace and Diamond) or over, has the utmost significance and is often life saving. It is interesting to note in Table I, in 500 case histories taken in alphabetical order from my files that 71% gave a negative reaction, corresponding fairly closely with the results obtained in my earlier paper⁽¹⁾ (76%), while 94% gave a reading under 3+; 3% had 3+; 1.8% 4+; 1% 6+. All of the six cases giving a reaction of 6+ or over, presented definite clinical evidence of greatly reduced liver function.

TABLE I.

Results of Ehrlich's Aldehyde Test in 500 cases.

Reading	Number of Cases	Percentage	
Negative	355	71.0	
+	75	15.0	
++	40	8.0	94.0
+++	15	3.0	
++++	9	1.8	
+++++	0	0.0	
++++++	6*	1.2	6.0
TOTAL	500	100.0	100.0

*I. Miss E. B., case of septic endocarditis, pulmonary infarcts, dilatation of heart and passive congestion of liver.

II. F. C. B., case of pyelitis, sub-acute hepatitis, with enlarged liver.

III. G. C. A., case of acute hepatitis, empyema of gall bladder. At operation the liver enlarged and mottled.

IV. J. A. B., case of sub-acute hepatitis following cholecystectomy for chronic cholecystitis.

V. J. B., Ditto.

VI. E. C. B., Ditto.

Heyd⁽³⁾ has repeatedly called attention to injury to the liver associated with disease of, and following operations upon the gall bladder, but in observing the diets allowed by most surgeons following cholecystectomy I am inclined to believe that this is not generally recognized. Certainly, my experience with this test bears out Heyd's contention, as a 3 + to 6 + reaction is invariably obtained, following cholecystectomy, lasting from two days to two weeks, or death, depending upon the virulence of the infection, and, I believe, to a great extent upon the diet.

It may be argued that a test which has clinical significance in only 6% of cases hardly justifies its routine employment, but a short resume of a few cases will show its importance:

Case 1. Mrs. T. F. S., 62 years old, was first seen by me in consultation with Dr. C. G. Cole on April 5th, 1923. She gave a history of having had repeated attacks of gall bladder colic, and for the previous three weeks had been having daily duodenal drainages, but had become progressively worse, running a daily temperature of 101° for four or five days. She had a leucocyte count of 20,000 with all symptoms of a septic gall bladder, but we feared operation on account of her age and the presence of 4% of sugar in her urine. At first examination her urine showed a negative aldehyde test, but within twelve hours it reacted 6 +, so that we decided upon drainage of gall bladder as the only hope of relieving the infection which had evidently spread to the liver. At operation, an empyema of the gall bladder was drained with removal of many stones. Examination of the liver, revealed a very much congested organ, which bled freely, with a mottled appearance, the lobules standing out prominently and all veins very much congested. By the use of insulin and glucose drip she made an uneventful recovery and is still living in good physical health with only an occasional dose of insulin. We might have been tempted to temporize had it not been for the sudden appearance of the aldehyde test in the urine.

Case II. Dr. W. G., 40 years old, a very busy practitioner, mentioned the fact on several occasions when we met, that he did not seem to have his former "pep" and was coming up to the office "some day" to have a physical examination. In the meantime, he suggested that I examine his urine as he thought he was suffering from in-

testinal toxemia. On examination his urine gave a 6+ aldehyde reaction and I telephoned him to come to the office at once. On physical examination I found this liver enormously enlarged, extending 8 inches below the costal arch, hard and sensitive. On proper diet and hygiene he had four years of comfort, work and pleasure, until he died from an acute intestinal hemorrhage.

Had he detected the aldehyde test in his urine at an earlier date, I feel sure that by saving his liver from work, the disease would have undoubtedly been retarded.

Case III. Miss E. H., 20 years old, a case of acute cholecystitis, complicating typhoid fever and pyelitis, seen in consultation with Dr. Maes. Tenderness over the gall bladder could only be elicited on deep inspiration, but nausea and vomiting seriously interfered with proper nourishing of a typhoid. A negative aldehyde test had been obtained for several days, when it suddenly appeared 6+. Interpreting this as evidence that infection had spread to the liver we decided upon surgical drainage of the gall bladder. Dr. Maes operative notes state: "The liver was very large and very red. Gall bladder small, contracted and thick walled. Aspirating needle revealed bile containing flakes of muco-pus." After the operation vomiting ceased and she made an uneventful recovery.

As early as 1874 Hoppe-Seyler⁽⁴⁾ produced urobilinogen from hemoglobin by strong reduction, and shortly afterwards Disque⁽⁵⁾ was able to produce it by reduction from urobilin, but little attention was paid to it until Bauer⁽⁶⁾ in 1905 showed that the red color obtained in certain urines by the action of Ehrlich's aldehyde reagent was due to the presence of urobilinogen in the urine. The source of urobilinogen in the urine is from absorption from the intestinal canal, normally changed by the liver, but with dysfunction of this organ appearing in the urine in large amounts. Whipple⁽⁷⁾ and his co-workers have repeatedly attacked this conception and claim there is no experimental proof that urobilin is absorbed from the intestines.

The experiments of F. Muller,⁽⁸⁾ of Beck⁽⁹⁾ and more recently of Wallace and Diamond,⁽²⁾ however, seem to prove this conclusively. Nellis Foster⁽¹⁰⁾ has also called attention to the fact that any pyrrol

derivative will give a positive test with Ehrlich's aldehyde reagent; and indol and skatol undoubtedly react similarly to urobilinogen, but indican or potassium indoxyl sulfat does not give the reaction. If these latter substances should appear in the urine unchanged their appearance denotes lack of liver function as they are normally changed by this organ, so that the value of the test as an evidence of lack of liver function is not lessened even though both Whipple and Foster are correct.

It cannot be denied that considerable damage and advanced disease of the liver may exist with a negative test, but when a strong reaction is obtained, in my experience, it has always been associated with lack of liver function, with the exception of those cases which presented evidence of hemolysis.

SUMMARY.

I. In an experience with over fifteen thousand urine examinations, extending over a period of 15 years, the Ehrlich aldehyde test has been of great value.

II. It is of clinical value in only about 6% of cases, but in these 6% it is often of the greatest value, both as to diagnosis and prognosis, and should be used, routinely, in urine examinations.

III. A tabulation of 500 cases in which the test was used is given in which it was positive in only 145 or 29%, being negative in 355, or 71%.

IV. The simplicity of the test recommends its routine employment.

V. Ehrlich's aldehyde test is invariably strongly positive after operations upon the gall bladder, suggesting injury to the liver.

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9. Beck, A.—"Ueber die Entsteburg des Urobilins." *Wein. Klin. Wachschr.* 35:182:1895.
10. Foster, Nellis—*Am. J. Med. Sci.*, 143:830. 1912.

DISCUSSION.

Dr. H. W. E. Walther: It has been a great pleasure to me, for the last fourteen years, to see just how tenaciously Dr. Eustis has stuck to his convictions in the aldehyde test. Since his first paper I have been doing the test routinely on all cases coming to my office and its routine application has been of value to me. I have seen the light and appreciate very much Dr. Eustis' enthusiasm. I believe, sooner or later, he is going to receive the thanks of a great many men for opening their eyes.

I have had any number of infections, of the right kidney in particular, where I could not say definitely, or could never clear up in my own mind, whether the infection originated in the gall bladder or the liver (the left kidney being entirely negative), or whether the condition existed in the kidney primarily or in some unexplained way extended from the gall bladder and liver. In such cases the aldehyde test has proved of distinct diagnostic value. If there are any urologists (who have so many urines to handle) or laboratory men who do not do this test, I think it would be well for them to interest themselves in it.

I have never had the opportunity before of expressing my gratitude to Dr. Eustis for calling this test to my attention. I believe there is a whole lot in it—and I surely feel that it has helped many of my patients who have come in for a great many different troubles. If this test read 4 plus, they were referred to Dr. Eustis or their family physician and whenever the right treatment was directed to their condition they improved.

Dr. F. M. Johns: I fully realize that it is not the very best medical practice these days to throw bouquets to the speaker in a discussion, but in this instance at least I wish to echo Dr. Walther's eulogy of Dr. Eustis who first called my attention to the value of the aldehyde test several years ago—and from which time the test has been routine in my laboratory. I have always gone out of my way to try and apply the various laboratory findings in a practical way and I can state definitely that it is my experience that a real positive aldehyde has always been associated with a possible functional or obstructive lesion in the liver.

It has also been interesting to check the biliverdin and urobilinogen reactions of the urine against the findings in the Van den Bergh test of blood serum for liver insufficiency, and it is my opinion that biliverdin may be demonstrated in the urine with Schlessinger's test in practically all cases presenting a direct Van den Bergh. If the obstruction is not complete—or the liver function be not unduly disturbed the aldehyde reaction will be negative. Frank obstructive jaundice with bile in the urine naturally will result in a negative aldehyde test, and in these conditions the test is not of value except in a negative way.

The texts describe pernicious anemia as being one of the diseases that often shows urobilinogen in the urine. Very few of my cases have shown either urobilin or urobilingen, and in the case of the former I do not hold its presence essential as it would appear to me that pernicious anemia is a fault in blood *production* with very little evidence of actual blood destruction shown anywhere. Incidentally the old figures of pernicious anemia must be revised in the light of the modern separation of hemolytic jaundice from the old Addisonian type of the disease.

Dr. J. Birney Guthrie: In using this reagent I have not had anything like the extensive experience of others who have discussed the subject tonight. I have used it considerably, but never as a routine procedure. Some years ago, through Drs. Love and Eustis, I had the opportunity of getting an insight into its merits, and can say for it that I have never seen it applied in an undoubted condition of disease of the liver where it did not give a positive reaction.

I should thank Dr. Eustis to state in closing the source from whom, one may be certain of obtaining the reagent.

Dr. I. L. Robbins: Dr. Johns states that he used the van den Bergh liver function test, checking it with the aldehyde and that the aldehyde

reaction of the urine gave him as much information as the van den Bergh.

From the little I understand about the latter test, I believe I am correct in asserting that laboratory workers claim to be able to distinguish between obstructive, toxemic and hemolytic jaundice. I would like you to tell me if the aldehyde reaction can tell us what type of jaundice we are dealing with?

Dr. Allan Eustis (closing): It is very gratifying to have this test received with so much favor. I was preparing more or less for scrap. It is particularly gratifying to find Dr. Walther, a man who is doing urology, an enthusiast, while I have had a hard time getting any of my fellow workers in internal medicine to take any interest.

An article entitled: "Hepatitis as an Associated Condition in Abdominal Infection," by Heyd, is interesting from a pathological phase and throws some light on the value of this test. In cases of appendicitis the author was struck with the frequency with which congestion of the liver was noted; quite a number of my cases of acute appendicitis have had an associated liver condition. In all abdominal infections there is an associated hepatitis.

I was very glad to hear from Dr. Johns. I know he has been doing quite a bit of work with the aldehyde reagent. Wallis & Diamond in "Archives of Internal Medicine" state that the aldehyde test gives you earlier information in regard to injuries of the liver than the van den Bergh test.

In answer to Dr. Robbins: I have had very little experience with the van den Bergh test. With the aldehyde test you cannot always tell whether you are dealing with hemolytic jaundice or obstructive jaundice. You have to look to your blood picture for that, but you can always tell when it is a case of complete obstruction. If the aldehyde reaction is negative, give them five grains of desiccated ox bile—your test will suddenly become strongly positive.

Bilirubin and biliverdin are reduced in the intestinal canal to urobilin and urobilinogen. When the liver is not functioning, they appear in the urine. So in complete obstruction you have a negative aldehyde test, on account of the absence of bile pigments in the intestinal canal. At the hospital we had a case of definite hepatitis, liver enlarged, tender, and acute gall bladder disease with jaundice. The patient was an old man of seventy-eight, hopeless from a surgical standpoint. Aldehyde test negative, but after giving him 5 grs. of ox bile, the aldehyde test was

strongly positive. A negative test is often quite as important as a positive test.

In answer to Dr. Guthrie: I have no trouble in getting a sufficient quantity of the reagent. At the beginning of the war the preparation was made entirely in Germany and I laid in a supply of four ounces. That lasted until a year ago. Since then I have been getting it from A. H. Thomas & Co. of Philadelphia. It is listed in their catalog. Getting it is merely a question of supply and demand. I. L. Lyons, or any of the wholesalers, I am sure will be glad to get it for you upon request.

Now there is one point that I want to impress on you, that is, that you may have considerable disease of the liver and have a negative aldehyde reaction. We had a case of definite carcinoma

of the liver who had been running a negative aldehyde test, then gave a strongly positive 6 plus, which means that the carcinoma had invaded the entire organ and there were no longer any liver cells carrying on its function. The patient lived 3 weeks after the test showed positive.

Another case at Charity Hospital, a man apparently in fairly good health, fairly well nourished. Liver enlarged. Very strong reaction. I wondered then: How long is this man going to live? He died in three weeks from toxemia, associated with toxemia of failing liver.

A positive test is often of the greatest importance and a negative test may be equally important. Give them five grains of ox bile and if this gives you a positive test it means complete obstruction.

ERADICATION OF FOOT-AND-MOUTH DISEASE.

The methods used in eradicating the outbreaks of foot-and-mouth disease in California and Texas during 1924 and 1925 are discussed by Dr. John R. Mohler, chief of the Bureau of Animal Industry, in a new publication of the United States Department of Agriculture, an official record of the outbreaks and their final eradication.

Though intended especially for the information of livestock sanitary workers who are liable to be confronted with similar problems at any time, the conquest over this foreign malady is told in a non-technical manner and deals with methods, some of which involved unusual resourcefulness, in combatting new and perplexing difficulties.

For instance, at a critical stage of eradication work, inspectors learned that bears were invading the range in which wild deer were known to be infected with foot-and-mouth disease, there being grave danger of the deer spreading the infection. To determine whether the bears were feeding on fresh meat or whether they were feeding on deer that had died, thereby supplementing eradication work, the inspectors obtained some bears in the region and made a post-mortem examination, especially of the stomach contents. The results showed deer hearts and livers that contained maggots almost fully developed, prov-

ing that the deer on which the bear had fed apparently had been dead several days.

Other problems during the outbreak included difficulties in disposing of infected herds with the results that some were buried in mine shafts in rocky regions or, as in Texas, burned by newly-developed incinerating equipment. Other herds in mountainous regions were buried in gullies, the sides of which were blasted to furnish a covering for the carcasses.

Besides these picturesque sidelights on the foot-and-mouth disease outbreaks, which occupied wide public attention at the time they occurred, the report deals with the origin of infection, quarantine problems, types of lesions, statistics of slaughter and indemnity, and steps to prevent further outbreaks. Through an official report, it recognizes the personal factors involved in dealing with emergencies of the kind discussed. The author pays tribute to the excellent co-operation of livestock owners, of State and county officials, and the willingness with which the general public made sacrifices and underwent inconvenience to help suppress the outbreaks.

The report deals also with the personal hardships endured by some of the inspectors in working long hours under adverse conditions, especially while wearing the necessary rubber uniforms during intense summer heat.

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Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

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For three years, A. A. Herold, M. D., *Vice-Chairman*; Lucien Ledoux, M. D.
For two years, Oscar Dowling, M. D.; H. W. Kostmayer, M. D., *Secretary*.
For one year, H. B. Gessner, M. D., *Chairman*.

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THE JOURNAL does not hold itself responsible for statements made by any contributor.

Manuscripts should be addressed to the Editor, 1326 Whitney-Central Bldg., New Orleans, La.

AMERICAN COLLEGE OF PHYSICIANS.

Announcement is made that The American College of Physicians will hold its Eleventh Annual Clinical Session in Cleveland, Ohio, February 21-25, 1927. Dr. Alfred Stengel of Philadelphia is President of the College and Dr. John Phillips of Cleveland is the Chairman of the Program Committee. The program will be of unusual interest to Internists, (including Neurologists, Pediatricists, Roentgenologists, Pathologists, Dermatologists, Psychiatrists and others engaged in the field of Internal Medicine). The Cleveland hospitals and the Western Reserve University will co-operate with the College in the presentation of the program. These programs con-

stitute each year a post-graduate week on Internal Medicine of outstanding merit.

During the mornings, there will be clinics and demonstrations at the various hospitals and in the laboratories of the Western Reserve University; during the afternoons, papers on various medical topics will be delivered by local members of the profession and by members of The College from other parts of the United States and Canada; during the evenings, there will be formal addresses by distinguished guests, American or foreign, and by the President or other representatives of The College.

The American College of Physicians is a national organization in which Internists may find a common meeting ground for discussion of the special problems that concern them and through which the interests of Internal Medicine may have proper representation. Membership in this organization is limited to those in the field of Internal Medicine. While it is not a limited national society of specialists) mostly prominent medical teachers), it is not co-ordinal with large national or sectional organizations of physicians requiring no special professional qualifications. Its standards are high and many men of distinction in the profession are numbered among its members.

An invitation has been extended by The College to all qualified physicians and laboratory workers to attend the Cleveland Clinical Session. An attendance in excess of fifteen hundred is anticipated.

DR. GRANGER HONORED.

It is a privilege for us to chronicle the fact that at the recent annual meeting of the Radiological Society of North America, held in Milwaukee, Dr. Amedee Granger of New Orleans received the gold medal of the Society for his meritorious work on the sphenoid sinus. The Society confers this medal, from time to time, upon those physicians and physicists whose work in



the field of radiology has proven of more than usual value to the profession. This is the first time the South has been so honored.

Workers in the field of oto-laryngology seem unanimous in their praise of the advantages they derive from the use of the Granger sinus mask in studying the sphenoids under the roentgenograph. This is the second time that Dr. Granger has received recognition for original work. In 1921 he was decorated by the French Government with the *Palme Académique* for his inventing a new and simple means of locating bullets and other foreign bodies imbedded in human tissue.

As most of our readers know, Dr. Granger has been connected actively with the x-ray department of Charity Hospital since 1905; he was made director of this service in 1921. Since 1908 he has served on the teaching staff of the graduate school of medicine at Tulane; in 1916 he was appointed to the chair of radiology, which position he still holds. He is a chancellor of the College of Radiology; ex-president of the Orleans Parish Medical Society; honorary member New Orleans Ophthalmological and Oto-Laryngological Society; honorary member Texas Roentgen Society and collaborator of the *Journal of Radiology*.

Besides being the recipient of their gold medal, he was further honored by the Radiological Society by being elected first vice-president of that body in December, 1926. The *Journal* joins, with the legion of admirers of Dr. Granger, in congratulating him upon the honor conferred. We feel that in winning distinction for himself he has won distinction for the entire South.

HOW TO MEET THE ISSUE.

In this number of the *Journal* will be found, under the head of "Correspondence", a letter from Dr. Guy A. Caldwell, well known Orthopedic Surgeon of Shreveport, who is active in medical society affairs and always aiming at the betterment of conditions. This article, if carefully read, will be found very pregnant with ideas and closes with a very pertinent question.

In reply, the *Journal* heartily agrees with most of the thoughts embodied in Dr. Caldwell's letter; we know that the usual copies of the *Journal* are a series of "uncoordinated hodge-podge of interesting articles", but we do not feel that, necessarily, they are "unessential to the life and practice of the average doctor." Being a "general" and not a "special" journal, we feel that we are bound, more or less, to

have a jambalaya of topics in our index of each issue. What we wish to commend most in the communication, however, is the constructive criticism and we feel that his final question should be thoroughly discussed; to this end, we invite further correspondence and shall be glad to publish suggestions from our membership, provided they are signed and not too lengthy.

Does the remedy lie in special articles, carefully edited by competent men, to be published each month, in symposia before our state societies on live, every-day topics, in appropriate clinics, held in conjunction with local, district and state society meetings—or, does it lie in all of them?

CORRESPONDENCE.

Shreveport La., Jan. 10, 1927.

To the Editor:

Louisiana can justly pride herself upon having a large and well-trained medical profession, numerous hospitals of the first order well distributed throughout the State, and a good State Medical Society and Journal. And yet the Community is not being rendered prompt and efficient medical care in the very cases in which it is of utmost importance. Such cases as are ordinarily regarded as amenable to medical and surgical skill are succumbing in great numbers. A brief survey of the causes of deaths in any of the public or private hospitals will confirm this statement. A partial list of these diseases must include traumatic shock, intestinal obstruction, ante- and post-partum tragedies, ruptured ectopic pregnancy, urinary retention, cardiac decompensation, malignant tumors, compound fractures and acute suppurative arthritis. Why then has the mortality in these classes of cases not been materially reduced? Of several reasons which may be advanced, there is one upon which all agree, viz., *the failure to recognize and send such cases to the hospitals in the earliest stages when medical and surgical measures would accomplish most.*

Not only do thinking medical men appreciate this lack, but the laity is keenly aware of it. How often does one hear the indictment uttered in mingled sorrow and bitterness, "But, doctor, had we known or been told to bring our loved one earlier, could he not been saved?" Usually the generous doctor "lies like a gentleman" to

protect his brother practitioner and to lessen the self reproach of the family. Nor does the lying stop there. Too often the consultant, fearful perhaps of losing his patronage, assures the family physician "that he could not have done otherwise under the circumstances."

"The circumstances," impartially viewed, are about as follows: the family physician fails to recognize the cardinal symptoms and danger signals of a grave case early in its course, or if he does recognize them, he is not emphatic enough in his insistence that the case be carried to the hospital promptly. But is he, and he alone, to be blamed? Emphatically no! His Medical School and Hospital, his Medical Society and the Journals to which he subscribes,—in brief, all the agencies of his under-graduate and post-graduate medical education must share his responsibility. It is unnecessary and unkind to rail at the very worthy and all-important general practitioner. He is usually keenly aware of his own inadequacies. He does need and want help, and he should have it.

It is not helpful to suggest that he go away for a post-graduate course. In the first place, he cannot leave his family and practice for more than a few days at a time. In the second place, most post-graduate courses and clinics give him little or no practical help in the solution of his every day problems of making an early diagnosis through the aid of his five senses unaided by laboratories. Properly conducted clinics in connection with the State and District Society meetings might prove to be of value to him. Even so the material should be carefully chosen with the idea in view of driving home the clinical pictures of the early stages of such cases as are enumerated above.

These clinics could not have the far-reaching educational influence of articles on these subjects in the State Journal which goes to the desk of every practicing physician in the State. But is the *Journal* meeting this need at present? Not adequately. And why not? Because its articles do not follow any definite program. They are not written to and for the average general practitioners who represent the large majority of readers.

It is common knowledge that the program committees of the various sections invite men of recognized standing and ability to read papers at the annual meeting. The subject and the method of treating it is usually left to the writer. It is natural, therefore, for him to write upon the theme that interests him the most or to present results of a series of cases which will impress his audience with his knowledge and ability in that

particular line. He reads the paper and turns it over to the secretary, and such papers represent the principal source of material for the year's publication. So long as this custom and tradition is adhered to, the best that can be hoped for is an unco-ordinated hodge-podge of interesting articles which are unessential to the life and practice of the average doctor.

Some may object that such articles would necessarily be so elementary that they would not be readable, or others may suggest that these subjects are well treated in any of the standard text books. Not every one would care to read all of these, to be sure. Neither does everyone read the special articles on the eye, or some branch of orthopedics. But since more than half of the subscribers are general practitioners, it would not be amiss to plan special articles for their consumption. It is granted that they must be most carefully prepared, edited and illustrated. They must be more vital, alive, and emphatic than any text book description can possibly be. Men can be found in this State representing every specialty and competent to treat these subjects in this manner, and they should be pressed into service.

It is generally agreed that the mortality in a certain group of cases is too high, and furthermore, it is recognized that the remedy lies in education of the general practitioners in their early recognition. Then is it not high time that the State Medical Society and Journal set about meeting their obligation in the manner by adopting a definite, coordinated and constructive educational program?

GUY A. CALDWELL, M. D.

December 31, 1926.

Dr. H. W. E. Walther,
Editor, N. O. Medical and Surgical Journal,
1326 Whitney Central Building,
New Orleans, La.

Dear Doctor Walther:

In order that the Journal's file on the subject may be complete, I am sending you herewith copy of letter from the Council of the Louisiana State Medical Society, dated September 27, 1926, with copy of my reply thereto, December 30.

Very sincerely yours,

OSCAR DOWLING,
President.

New Orleans, La.,

September 27th, 1926.

Dr. Oscar Dowling, President,
Louisiana State Board of Health,
New Court Building,
New Orleans, La.

Dear Doctor Dowling:

At the last meeting of the Council and Executive Committee, in reply to your communication of May 26th, the following were the findings of the Committee:

"That it is the sense of the Council that Dr. Dowling erred in his definite unethical criticism of organized medicine represented by the Rapides Parish Medical Society made to the recognized legal opponents of this organization, by injecting his personal opinion, which is at variance with the expressed opinion of the American Medical Association of which he is a component member, at a critical time when the organization was seeking a Court injunction against a purely local ordinance intended to supercede the Federal Law, recognizing a legal and moral therapeutic remedy. Be it further resolved that copies of this resolution be forwarded Dr. Dowling and the Secretary of the Rapides Parish Medical Society."

Yours very truly,

(Signed) F. T. GOUAUX, M. D.,
Secretary Council.

December 30, 1926.

Dr. F. T. Gouaux, Councilor, Secretary Council,
Louisiana State Medical Society,
Lockport, La.

Dear Doctor Gouaux:

The conclusion of the Council, transmitted in your letter of September 27th, came during my absence.

In the findings of the Council as transmitted, I am charged with "unethical criticism of organized medicine." To anyone who has even read the affidavit made by me the misrepresentation of this charge is immediately apparent.

I made no criticism whatsoever but merely set forth my opinion as to the therapeutic value of alcohol and even in so doing pointed out that there was a difference of opinion on this point among medical men.

As for my opinion being "at variance with the expressed opinion of the American Medical Asso-

ciation," you overlooked the fact that my opinion was shared by a majority of the American Medical Association in 1917 and was reversed by only a very small margin in 1923. Moreover, you are doubtless aware of the recent decision of the United States Supreme Court on this subject wherein after a thorough canvass of medical opinion they say: "Physicians differ among themselves as to the efficacy of spirituous liquors as medicine and * * * the preponderating view is that they have no value."

In the American Medical Association Bulletin of December, I find this comment:

"Irrespective of the views that physicians may hold with respect to the therapeutic virtues of alcohol, it is altogether improbable that they will find themselves in agreement with the majority opinion of the Court, which, in effect, denies the physician the right to use what he may believe to be best for his patient if Congress believes otherwise.

"Reputable physicians can take no other course than to obey and uphold the law. If it is wrong, its weaknesses and oppressions will be developed more quickly and more clearly by its observance. Then the corrections needed can be secured."

As to the court injunction which you mention, I marvel at this being introduced as one of your

exhibits in a complaint involving medical ethics. In the findings of the Council the implied issue between the Rapides Parish Medical Society and the Police Jury was the recognition of liquor as "a legal and moral therapeutic remedy." Will the records bear out this contention when apparently the basis of action was the complaint made by ten physicians in an affidavit to the Clerk of the District Court, alleging a loss of \$2,500 each annually if deprived of the privilege of prescribing whiskey. If the prescribing of whiskey as a "legal and moral remedy" was the basis of action, why cloud the issue with the statement of the physicians' financial loss? Would you have it understood that it is the purpose of the Council to offer such evidence as this in defense of "organized medicine represented by the Rapides Parish Medical Society," whose ethical conscience has been shocked by my statement of personal opinion as a public servant in response to a request from a local official agency? "Consistency, thou art a jewel!"

The Council say I "erred". If I did so it was in an effort to uphold the dignity of the medical profession and organized medicine.

Very truly yours,

OSCAR DOWLING.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

The Board of Directors has held one meeting and the Society has held one Installation Meeting and one joint meeting with the New Orleans Gynecological and Obstetrical Society during the month of January.

The meeting of the Board of Directors was a joint one of the Old and New Boards. Nothing of importance to the Society as a whole came up at this meeting.

At the Installation Meeting the program was as follows:

Annual Report of Secretary, Dr. H. Theodore Simon.

Annual Report of Treasurer, Dr. John A. Lanford.

Annual Report of Librarian, Dr. Daniel N. Silverman.

Reports of the following Standing Committees:

Scientific Essays Committee, Dr. Emmett L. Irwin, Chairman.

Judiciary Committee, Dr. Chas. Chassaignac, Chairman.

State Medicine and Legislation Committee, Dr. Homer Dupuy, Chairman.

Auditing Committee, Dr. Foster M. Johns, Chairman.

Condolence Committee, Dr. A. C. King, Chairman.

Hospital Abuse Committee, Dr. A. E. Fossier, Chairman.

Finance Committee, Dr. John A. Lanford, Chairman.

Publication Committee, Dr. H. Theodore Simon, Chairman.

Periodic Health Examinations, Dr. Lucien LeDoux, Chairman.

Annual Report of Retiring President, Dr. Maurice J. Gelpi.

Annual Address of Incoming President, Dr. A. E. Fossier.

Annual Address by Dr. Joseph Reviere, of Paris, France.

Dr. Reviere is a pioneer in physiotherapy and has been traveling over the United States following the meeting of the Radiological Society of North America recently held in Milwaukee.

Installation of the following officers:

President—Dr. A. E. Fossier.

First Vice-President—Dr. John F. Dicks.

Second Vice-President—Dr. C. Grenes Cole.

Third Vice-President—Dr. E. L. King.

Secretary—Dr. H. Theodore Simon.

Treasurer—Dr. John A. Lanford.

Librarian—Dr. Daniel A. Silverman.

Additional members Board of Directors:

Dr. Frederick L. Fenno

Dr. Maurice J. Gelpi

Dr. Emmett L. Irwin

Announcement of the following appointments of Chairmen of Standing Committees:

Dr. Jerome E. Landry, Chairman, Judiciary Committee.

Dr. Leopold Mitchell, Chairman, Scientific Essays Committee.

Dr. J. T. Crebbin, Chairman, Auditing Committee.

Dr. Daniel J. Murphy, Chairman, Condolence Committee.

Dr. Jules E. Dupuy, Chairman, State Medicine and Legislation Committee.

Dr. F. R. Gomila, Chairman, Librarian's Report Committee.

Dr. Lucien Fortier, Chairman, President's Report Committee.

Dr. R. D'Aunoy, Chairman, Treasurer's Report Committee.

Dr. T. A. Maxwell, Chairman, Secretary's Report Committee.

Dr. L. M. Provosty, Chairman, Hospital Abuse Committee.

Dr. Daniel N. Silverman, Chairman, Library Committee.

Dr. Lucien LeDoux, Chairman, Louisiana State Medical Society Convention Committee.

The following resolutions proposed by the Condolence Committee were adopted:

Whereas: By the Will of God, Dr. Hamilton P. Jones and Dr. John F. Oechsner, our Confreres, were taken from among us.

Therefore be it resolved: That this Society desires to express to the families of Dr. Jones and

Dr. Oechsner its regret and sincere sympathy in their bereavement.

The joint meeting held with the New Orleans Gynecological and Obstetrical Society: At this meeting Dr. Jennings C. Litzenberg of Minneapolis read a paper on "Truth and Fiction About the Endocrines in Obstetrics and Gynecology."

Dr. E. L. King, Chairman of a Special Committee, read a report "A Study of Cesarean Section Performed in Hospitals of New Orleans from 1921 through 1926."

Dr. John F. Oechsner, a member of this Society, died December 23, 1926

The Membership of this Society to date is 485.

REPORT OF TREASURER

December

Actual Book Balance 11/30/26:	\$1,350.77
Receipts during December:.....	\$ 633.39
	<hr/>
	\$1,984.16
Expenditures:	\$ 769.60
	<hr/>
Actual Book Balance:	1,214.56
Outstanding Checks:	\$ 464.00
	<hr/>
Bank Balance 12/30/26:	\$1,678.56

REPORT OF LIBRARIAN.

December.

One bibliography has been prepared during the month on the subject:

Gunshot Wounds of the Abdomen 1918—date. This list has been filed for subsequent use.

Eighty-two (82) volumes have been added to the Library. Of these 43 were received by binding, 22 from the New Orleans Medical and Surgical Journal, 3 by purchase and 14 by gift.

The Library has been the recipient of book gifts during the month from Dr. John Lanford and Dr. P. B. McCutcheon. A list of titles of recent date is appended:

- Lowsley & Kirwin. Textbook of Urology. 1926.
- Shattuck—Principles of Medical Treatment. 1926.
- Lereboullet—La grippe. 1926.
- Mayo—Thyroid gland. 1926.
- New England Mutual Life Insurance Co.—Life Insurance Medicine. 1926.
- International Medical Annual. 1926.
- Dock—Materia Medica for Nurses. 1926.
- Stopes—Human Body. 1926.
- Schalek—Fundamentals of Dermatology. 1926.
- Anders—Medical Diagnosis. 1925.
- Lobenstine—Prenatal Care. 1926.
- Crothers—Nervous System in Childhood. 1926.
- Holt—Diseases of Infancy and Childhood. 1926.
- Peck—Ears and the Man. 1926.
- Practical Medicine Series—General Medicine. 1926.
- Ellis—Elements of Pathology.
- Hajek—Nasal Accessory Sinuses. 2 v. 1926.
- Garrison—Anatomic Illustrations Before Vasalius. 1926.
- Deaver—Surgical Anatomy of the Human Body. v. 1. 1926.
- Balyeat—Hay Fever and Asthma. 1926.
- Crile—Bipolar Theory of Life Processes. 1926.
- American Pediatric Society. Transactions. 1925-1926.
- American Neurological Association Transactions. 1926.
- Rockefeller Foundation Annual Report. 1926.
- Mayo Clinic—Index of Collected Papers. 1926.

H. THEODORE SIMON, M. D.,
Secretary.

TRANSACTIONS OF THE JOINT CLINICAL MEETING OF THE ORLEANS PARISH MEDICAL SOCIETY WITH THE CHARITY HOSPITAL STAFF HELD SEPTEMBER 27th, 1926.

I.

Dr. Walter J. Otis.

THE INCIDENCES OF THE BODILY DISEASED IN THE PSYCHOSES.

In presenting this case I do so with the hope that others interested in neuropsychiatry may be forthcoming with data.

We are taught that in all of the psychoses the type with the highest percentage of recovery is the manic depressive group; that in certain types of this group the duration of illness is prolonged

with marked changes in the psycho-motor sphere and that among causes of auto-intoxication plus psychic factors. It has been my experience in many cases to note that intercurrent bodily diseases, especially of the pneumonia type when occurring in these cases, have a tendency to hasten their recovery when the type of psychosis has been termed recoverable. In my opinion this is due to leucocytic changes in the blood plus a stabilizing of the metabolic processes due to institutional or intelligent care and treatment which these patients as a rule do not receive in their homes.

In this case of the manic depression we are dealing with a white female industrial worker who has lived in a furnished room locality in the poorer section of the city, with long hours, laborious constant duties which are nerve racking. The abstract of her history is as follows:

Abstract of Case.

White female, 48 years of age, widow; catamenia ceased two years ago. Admitted 8/11/1926, with the history of not feeling well some time previous to acute onset of present illness. Remained away from work one month ago due to a mild depression, feeling weak, having hot and cold spells with cold perspiration, nervous, would walk the floor and rub her hands, could not keep them still. Had to be forced to sit down. Had a slight remission for a day then a recurrence with agitated depression, would remain in one place almost mute until forced to move.

On admittance she was depressed with a mild agitation and depressed facial expression. Suggestive agitation by sighing as though in mental anguish. She later developed bilateral lobar pneumonia. Spoon fed by nurse. Blood picture 8/13/1926, was as follows:

Total red blood cells	5,725,000
Total white blood cells	15,250
Small monos	10%
Large monos	4%
Eosinophiles	0
Basophiles	0
Neutrophile	86%
Pathologic cells	None

Blood Wassermann was negative on 8/16/1926, likewise blood culture showed no growth. On 8/17/1926, spinal fluid and Wassermann of fluid urinalysis were negative. She ran a definite course of lobar pneumonia with the necessary supportive and symptomatic treatment. Her reduction of temperature was by crisis following which she commenced to adjust herself, ask questions, converse with other patients and appear more cheerful. About this time she experienced furunculosis mild which promptly responded to treatment. On 9/24/1926, the blood picture was as follows:

Total red blood cells	5,250,000
Total white blood cells	2,500
Hemoglobin	80%
Small monos	22%
Large monos	6%
Eosinophiles	1%
Basophiles	1%
Neutrophile	70%
Pathologic cells	None
No malaria plasmodia found	

Marked improvement in her psychic and physical morale followed.

On 9/30/1926, she was up and about the ward assisting in ward duties, making sponges, etc. She was discharged 10/18/1926, as a social recovery from N. P. standpoint and markedly improved from her bodily disease. The last report received was to the effect that this patient was adjusting very well outside.

Diagnosis: Manic depressive psychosis depressed phase. Recovered for this attack.

Complications: Pneumonia, lobar, bilateral. Recovered.

Ward No. 302

RENAL CALCULI APPEARING IN COLORED FEMALE PATIENTS.

II. CASE No. 1.

Dr. A. Mattes

This colored girl was admitted to the hospital August 24th, with the diagnosis of left renal calculi. She had been referred from the medical clinic to the G. U. clinic with the diagnosis already made. Dr. Smith can give you the details as to what she was complaining of and how long she was treated by him. The x-ray pictures show two large stones in the pelvis of the left kidney, with evidence of retention and three small ones in the lower calyx. She was operated on and a nephrolithotomy performed and the calculi removed. Of the three calculi in the calyx, two were removed. We did not know whether we had washed the last one out or not, or if she had passed it, but a subsequent picture shows it has descended into the ureter and it is only a question of time before it will pass. (This stone was passed ten days later.)

The only reason for presenting this case is the fact that I presented another case at an earlier meeting this year, making the second case of renal calculi in the female colored. The question was asked about the rarity of this condition. I know of three cases in the colored male. They are to be shortly reported before the Southern Medical Association Meeting.

DISCUSSION.

Dr. J. W. A. Smith: This patient was first seen by me in the Medical Clinic about four years ago. Clinically, the history was that of duodenal ulcer. Pain about four hours after eating, relieved by soda and food. Radiologist's diagnosis was reported as duodenal ulcer with irregularity.

She was sent into the ward and placed on observation for three or four weeks, but did not improve very much. Did not see her again until about six months ago when she reported to the clinic. In the course of the examination gastro-intestinal x-ray was made. The report was that little or nothing was found in the gastro-intestinal tract, but that there was a large, irregular calculus in the left kidney. The point of particular interest is that the clinician usually always looks at the x-ray picture. I believe I failed, in the first instance, by not comparing the picture with the history of the case for, going over the radiologist's report of three years ago, the calculus is just as apparent as in the pictures made five or six months ago.

Dr. Monroe Wolf: Sorry I did not know Dr. Mattes was to report these cases. We have had under observation at Touro Infirmary for the past two years a colored female with bilateral renal calculi. Since that time I have gone through the records of the Surgeon General's Library and the Index Medicus and could not find any case of calculi recorded in the colored, male or female. I think it is interesting that we have had these three cases in the last two years. Going over the files in the hospital since 1907, there have been five or six cases reported. Going through six to seven thousand cases at Touro Infirmary the case I mention was the only case found in the colored race. The woman had refused operation up until about two months ago, when she was last seen.

In answer to Dr. Jamison's question as to whether this patient was a negro or a mulatto, will say that she is black.

Dr. Allan C. Eustis: I think Dr. Smith opens up a broad field with reference to stomach symptoms. I shall never forget the humiliation I felt 12 years ago when I referred a case to Dr. Parham for gastro-enterostomy for duodenal ulcer and, on operation, a large peri-renal abscess was found. The man had no temperature and a normal blood count.

The point I want to bring to the attention of the society is that in renal cases we often have symptoms referable to the stomach.

CHRONIC MYCOTIC INFECTIONS OF THE RECTUM.

II. CASE No. 2.

Dr. A. Mattes

Since the advent of Dr. Castellani in New Orleans, interest in tropical medicine has been

greatly stimulated, and numbers of cases have been presented for diagnosis that formerly were overlooked. In our service we have been much wrought over a condition of which we see one, two or three cases a year. It is quite a problem to cure this condition. This colored woman came in with the diagnosis of carcinoma of the rectum and multiple stricture and fistula. That is the diagnosis one would make looking at it, but what it really is, I do not know. The disease started about eight years ago, at the age of 40, with a small pimple at the side of the rectum. The pimple was picked and pus formed. She then came to the clinic where she was advised to wash herself with boracic acid and told that her blood was "bad". She states that her husband had a "bad" disease and she thinks that he made her sick. There are no aches or pains except in the right leg where she has a so-called boil. There are no urinary symptoms. The lesion is about the anus partly obstructing the rectum and extends upwards for several inches. The mucosa is not involved but is distorted by the dense infiltration about it. The lesion extends to the buttocks and down the thigh. There are numerous small to large abscesses and sinus tracts. The Wasserman reaction is negative. Rush diagnosis is negative for malignancy. It is not carcinoma of the rectum. It is a tropical disease probably mycotic in origin. The laboratory in this case and in all previous has been unable to label the diagnosis. All reports are negative. The operative treatment is to open widely, curette and pack. Medication is tartar emetic, anti-leptic measures and cleanliness.

DISCUSSION.

Dr. R. W. Mendelson: We have in Siam many of these chronic mycotic infections. The exact diagnosis depends upon laboratory assistance, such as isolating the fungus and then run same through sugars. We treat these chronic fistulous cases by excising the entire infected tract. This case corresponds to cases we see in Siam.

Dr. A. Mattes (closing): This woman spent a few months in Cuba, but the majority of the patients of this type were born and raised in this community. The last patient became tired of waiting for a diagnosis and getting no treatment and deserted.

This patient that was presented deserted the day following the above.

ANEURISM OF THE COMMON CAROTID ARTERY CURED BY OCCLUSION OF ARTERY WITH ALUMINUM BAND.

III. CASE REPORT.

Lucian H. Landry

This patient is being presented to illustrate a very serious condition which was cured by a comparatively simple surgical procedure.

He was admitted to the hospital some four weeks ago, was studied by Dr. Matas, who would have operated the case, but he was compelled to make a Canadian trip, so the patient was kindly referred to me for operation.

In planning the surgical procedure, Dr. Matas pointed out that an aluminum band applied to the common carotid just below the site of the aneurism, tight enough to occlude the vessel, would act as a ligature and at the same time would not traumatize the intima. This is most important, for should the patient show signs of cerebral anemia, the aluminum band could be removed and the artery restored to its normal function, whereas, if a ligature be applied tight enough to cut off the circulation, the artery becomes irreparably damaged and unfit for future use.

It has been shown that the aluminum band can be applied to a vessel and compressed enough to completely occlude the vessel without causing any endarteritic changes up to 72 hours.

Should symptoms of cerebral anemia present following the application of the band, these symptoms will be found occurring within the first 12 hours, and usually earlier. A close watch is put on the patient for the first day and any signs of partial hemiparesis is an indication for the removal of the band,—which restores the cerebral circulation and the hemiparesis gradually clears up.

We have had to remove the band in some four or five cases where the common carotid was occluded for various reasons, and the symptoms of cerebral anemia have always appeared within the first six to eight hours.

The surgical procedure is comparatively simple and consists of exposing the common carotid artery (under local anesthesia) just below the aneurismal dilatation, where a band of aluminum, as wide as the caliber of the artery, is passed around the vessel and gently pressed with the fingers until the distal pulse is obliterated. A clamp may be used to obtain uniform compression, and the excess of aluminum band cut off with a suitable instrument. The wound is closed

with interrupted sutures without drainage and a simple sterile dressing applied over the wound.

This is the procedure that we carried out on this patient on September 15th; he has shown no untoward symptoms since the operation. When he was admitted to the hospital there was a vigorous pulsation in the tumor (occupying the bifurcation of the carotid) about the size of a hen's egg, but this tumor has been absolutely stilled since the application of the band. The pulse in the temporal and facial arteries was also obliterated and has only returned (to a less extent than on the opposite side) in the past two or three days.

This is the twelfth day following the operation; the patient shows a slight wound that is perfectly healed and he is ready to return home.

*From the Department of Surgery, Tulane Medical School.

SOME GASTRIC DEFORMITIES.

IV.

Dr. Emmett Irwin

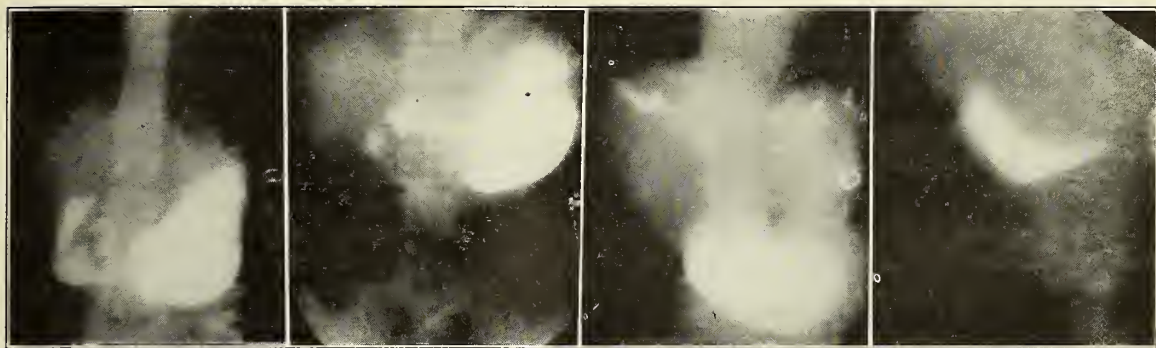
The series of plates here presented demonstrates some of the extremely interesting deformities dealt with in persons suffering from gastric disturbance and how easily one may be misguided in his conclusions when the opinion is based solely upon the radiograph.

Case I. Colored female, 30 years of age, suffered from gastric disturbance for three years and vomiting past three months, accompanied by marked loss in weight.

Patient weak, emaciated and anaemic. Palpable mass size of duck's egg beneath right costal margin in region of pylorus which is freely movable and tender to pressure. Roentgenograph shows marked gastric deformity in region of pylorus with retention. *Diagnosis:* Carcinoma of Stomach (Pylorus).

From the information at hand it was doubtful as to the value of operation but exploration was advised and preparation made for resection. Using Posterior Splanchnic Analgesia (Irwin-Kappis method) supplemented by Braun's ventral block, the abdomen was opened, finding a freely movable mass as described above. This involved the Pylorus with two enlarged lymphatic nodules adjacent to the Pars Intermedia and within the lesser omentum, but there was no metastasis to the liver. Resection was performed removing a portion of lesser omentum and effecting a Gastrojejunostomy after Finsterer's technique.

Case II. A white male, about 45 years of age, presenting gastric symptoms of one year's dura-



CASE I.

CASE II.

CASE III.

CASE IV.

Case I. Deformity due to Carcinoma of Pylorus. Resection performed.

Case II. Deformity due to Carcinoma of Pylorus and Pre-pyloric area along greater curvature. Hepatic metastasis making resection of no benefit. Gastro-jejunostomy performed.

Case III. Deformity from extra gastric pressure at pylorus produced by hepatic enlargement from Primary Carcinoma of Liver.

Case IV. Deformity from extra gastric pressure at pylorus and lesser curvature produced by hepatic enlargement from diffuse Syphilitic Hepatitis.

tion without vomiting and only slight loss in weight.

Patient's general condition fair. A palpable freely movable and tender mass was present in the epigastrium. Roentgenograph shows definite and persistent deformity along greater curvature of stomach in the region of Pylorus.

Diagnosis: Carcinoma of Stomach (Pylorus).

It was thought this case would lend itself nicely to resection so an exploration was effected with the aid of Splanchnic Analgesia. To our sorrow there was already metastasis to the Celiac Glands and Liver. Therefore only a palliative Posterior Gastro-jejunostomy was performed.

This case is in marked contrast to the preceding one though both are Gastric Deformities due to Gastric Lesion (Pyloric Carcinoma).

Case III. A colored adult male, apparently 50 years of age, suffering from gastric distress for four months, being more aggravated recently.

There was no loss in weight but the liver was generally enlarged downward reaching beneath the costal margin to the extent of four finger breadths and possessing soft somewhat fluctuant nodules on its surface. Roentgenograph shows a large markedly dilated stomach with evidence of considerable secretion and pyloric obstruction with retention.

Diagnosis: Carcinoma of Pylorus, with obstruction and metastasis to the liver.

Laparotomy with Local Analgesia revealed no gastric lesion whatever but the pressure defect at the pylorus was due to enlargement of the liver which organ was almost completely destroyed by

semi-fluctuant cystlike nodules. A section from one of these showed Primary Carcinoma of the Liver.

Case IV. A colored male, 25 years of age, who has suffered from gastric disturbance for the past year. There was both nausea and vomiting but no loss in weight. Symptoms are increasing in severity.

The entire epigastrium was filled with a mass which had a sharp irregular edge extending to the iliac crests laterally and to the umbilicus in the median line. The mass was firm to pressure and slightly tender. This mass gave the impression of the coming together of an enlarged liver to the right and center and a spleen to the left. Fluoroscopy revealed elevation of the entire diaphragm and movement of the mass on and with respiration. Roentgenograph shows a queerly deformed stomach evidently produced by extra gastric pressure. The Wassermann reaction was strongly positive. The symptoms promptly disappeared and the mass rapidly diminished upon institution of active anti-syphilitic treatment.

Diagnosis: Acute diffuse Syphilitic Hepatitis and Spleenitis.

Cases I and II present Gastric deformities produced by definite Gastric Lesions while Cases III and IV present Gastric deformities equally as marked but produced by Extra Gastric Lesions.

These are only a few cases from a large class but it is believed the following points are clearly shown:

1. The X-ray is of great assistance in gastric diagnosis.
2. The X-ray is often misleading.

3. The X-ray findings should be regarded as added information in the chain of evidence and utilized in conjunction with the clinical data.

4. One is never absolutely certain of the extent of the lesion or nature of the operative procedure possible.

5. Exploration is only procedure fair to the patient and should be advised.

DISCUSSION.

Dr. Eustis: The interest of the internist in carcinoma of the stomach after the diagnosis has been made, is in prolonging the life of the patient with as little discomfort as possible. I believe that many surgeons after finding an apparently inoperable carcinoma as far as resection is concerned, close up the abdomen with no relief to the patient. If the greater curvature of the stomach is not involved in the growth, draining the stomach by gastroenterostomy will often give these patients complete comfort from one to three years. They often gain in weight and the gastric symptoms disappear. I recall one case in particular, a man about fifty-four years of age, operated upon by Dr. Stone, with carcinoma of the pylorus and involvement of all the lymphatic

glands revealed at the operation. He was very emaciated and had been suffering intense pain after meals. The macroscopical diagnosis was so apparent that no glands were removed for microscopical diagnosis. We decided upon gastroenterostomy, and after recovery from operation he was free from pain, gained thirty pounds in weight, and lived in complete comfort for two years, when he died from general carcinomatosis. The point to be remembered is that symptoms of carcinoma of the stomach are caused by involvement of the pylorus and failure of the stomach to empty itself, so that gastroenterostomy will relieve these symptoms by overcoming the obstruction to the passage of food.

Dr. H. B. Alsobrook: I saw a similar case of carcinoma of the stomach on which a gastroenterostomy was done. He was a laborer for the railroad. He was up and relieved and worked for 14 months after operation, and finally died.

Dr. Emmett Irwin (closing): I thank Dr. Eustis for his valued discussion and I agree with his views with reference to palliative procedures in so-called inoperable Carcinoma of the Stomach. In all cases exploration should be performed and the surgeon should give what relief may be possible even though a cure can not be hoped for.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY BULLETIN.

The Committee on Scientific Essay of the Louisiana State Medical Society wishes to announce that active plans have been instituted for the arrangement of an unusual Scientific Program at the approaching meeting to be held in New Orleans, April 26th, 27th and 28th, 1927. From results already obtained, they have reason to feel that several innovations will be introduced in the arrangements of the Scientific material which they hope will prove satisfactory and profitable to all the members.

The State Medical Society, meeting as it does in New Orleans, always looks forward with a great deal of anticipation to this opportunity. Members of the Society who have been fortunate enough to attend the sessions held in New Orleans, have always left feeling well repaid for their visit to the Crescent City.

The early appointment by the President of the Orleans Parish Medical Society of a Committee on Arrangements indicates that plans for the entertainment of the guests will be well taken care of, and that each and every one may expect to have a pleasant time.

The State Medical Society has enjoyed unusual activity during the past year. Our efforts in the stimulation of interest in organized medicine culminated in the visit of Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, and quite an authority on many phases of medicine and its organization. No doubt this will prove to be one of the best years enjoyed by the Louisiana State Medical Society. This has not only been manifested by increase of individual interest, but numerically the State Society reached its highest pinnacle during 1926, the enrollment being 1301 physicians. While this record is one to be commended, yet we have not accomplished what we should in having physicians recognize the benefits to be received by being members of the State Medical Society. However, we feel that the unusual interest in medical organization will reflect in a manner to increase our numerical strength.

The above is intended simply as a foreword to urge and insist that every member of the State Society begin at an early date to make plans for attending the Annual Meeting in New Orleans. Unquestionably there will be many forms of scientific entertainment to interest one. If plans are successful, we hope to be able to have an interest-

ing clinical and scientific exhibit, which has always characterized the New Orleans Meeting.

Don't forget the date, April 26th, 27th, 28th, 1927, and let nothing but the unusual prevent your attendance.

CHAIRMEN OF SECTIONS.

The following Chairmen of Scientific Sections for the approaching meeting of the Louisiana State Medical Society, New Orleans, April 26th, 27th and 28th, 1927, have accepted their appointment by the President:

Medicine and Therapeutics—Dr. W. S. Kerlin, Shreveport.

Pediatrics—Dr. E. R. Yancey, Monroe.

Nervous Diseases—Dr. T. J. Perkins, Jackson.

Bacteriology and Pathology—Dr. J. A. Lanford, New Orleans.

Public Health and Sanitation—Dr. J. W. Faulk, Crowley.

General Surgery—Dr. Emmett L. Irwin, New Orleans.

Gynecology and Obstetrics—Dr. Hilliard E. Miller, New Orleans.

Eye, Ear, Nose and Throat—Dr. J. P. Leake, New Orleans.

Urology—Dr. E. K. Hirsch, Baton Rouge.

Radiology—Dr. Lucien A. Fortier.

Those desirous of reading papers should communicate with the various Chairmen as promptly as possible. The program for each Section must be in the hands of the Secretary-Treasurer not later than February 26th.

COMMITTEE ON ARRANGEMENTS.

Dr. Lucien A. LeDoux was appointed Chairman of the Committee on Arrangements by the Orleans Parish Medical Society.

COMMITTEE ON SCIENTIFIC ESSAY.

Following is the Committee on Scientific Essay for the approaching meeting of the Louisiana State Medical Society:

Dr. P. T. Talbot, Chairman; Dr. A. E. Fossier, and Dr. Elizabeth Bass.

SPECIAL ATTENTION.

Dues for the Louisiana State Medical Society for 1926 should be paid in advance. Those mem-

bers in unorganized parishes should send their \$4.00 direct to the Secretary-Treasurer of the Louisiana State Medical Society, 1551 Canal Street. Medical Defense begins from the time the dues are received by the Secretary-Treasurer. Your prompt attention and co-operation is requested.

P. T. TALBOT, Secretary-Treasurer.

The eighth annual fall meeting of the Sixth District Medical Society was held at U. S. Marine Hospital, No. 66, at Carville, La., Dec. 10th, 1926.

The following members were present: Doctors Cayzaux, Lorio, Becnel, Bulloch, Farmer, LeBlanc, Toler, Shaw, Duchain, Martin, Thom, Rougon, Hensley, Eidson, Wolfe, McGuffey, Carruthers, Heidensfelder, Paine, Williams, Weiss, Singleton, Polk, Hirsch, Jones, Robert, Lee, Perkins, Carruth, Sewell, Foreman, Wallace, Wooley, St. Dizier, McCaa, Major, Tyler, Jackson, Mayline, Tucker, Barrera, Young, Charlet, Brumfield, False, Hanson, Grace, Lea, Buquoi, Jones, Clay, Riche, Davis and Skinner.

As guests of the Society it was a pleasure to have the following Doctors with us: Morris Fishbein, Blackshear, Gessner, Pehran, Spencer, Welch, Anderson, Johansen, Horton and Chisolm.

After the usual order of business, a very interesting and scientific program was presented.

Dr. Morris Fishbein addressed the members of the Society on the Progress of Medicine. So fluently did the Doctor speak, and so thoroughly conversant was he with his subject that his audience sat spellbound, regretting the all too sudden termination of the Doctor's address and his hasty departure. There is no doubt that even though Dr. Fishbein was with us but a few short moments, his visit has helped to awaken renewed interest in medical ideals.

The remainder of the Scientific Program was a symposium on Leprosy presented by the following doctors connected with the Leprosarium:

SCIENTIFIC PROGRAM.

Address—Dr. Morris Fishbein, Editor, Journal of the American Medical Association. "Progress of Medicine."

"Bacteriologic and Histologic Aspects of Leprosy"—Dr. O. E. Denney. (Lantern slide demonstration.)

"Leprosy, Complicated by Syphilis and Hypernephromatosis." Report of a case—Dr. D. G. Wooley. (Lantern slide demonstration.)

"Surgical Aspects of Leprosy"—Dr. B. G. Barentine. (Lantern slide demonstration.)

"Medical Aspects of Leprosy"—Dr. F. A. Johansen. (Lantern slide demonstration.)

"Pyorrhea Alveolaris in Lepers"—Dr. B. M. Prejean.

A most enjoyable luncheon was served by the Sisters of Charity and the ladies of Carville.

After the luncheon the members were shown over the institution and the workings of various departments demonstrated.

At the regular monthly meeting of the Shreveport Medical Society on January 4, 1927, the following resolutions were adopted:

Resolved, by the Shreveport Medical Society, in regular session, January 4, 1927, that we heartily endorse and commend the frank and manly stand taken by Coroner Carter and the gentlemen of Bossier Parish comprising the Coroner's jury, in denouncing and recommending for proper punishment those whom they consider, by neglect of medical care, to the death of a poor, defenseless child.

We feel that, in this age of cultism, in spite of the steady advance of scientific medicine, it behooves us to be frank and above board in matters of this kind; we should "call a spade a spade," and if so called "Christian Science" is responsible for neglect in this case, words should not be minced in denouncing the crime. Convictions in such affairs have been obtained in other states, and we feel that this one should be pushed to the limit; it is reported that mitigating circumstances may be put forward to thwart justice in this instance, and so, even though no conviction be obtained, we feel that it should prove no discouragement, but rather a spur to officials, to expose such ridiculousness whenever it contributes toward the loss of life.

Resolved further, that a copy of these resolutions be furnished to Dr. Carter, to the daily press, and to the New Orleans Medical and Surgical Journal for publication.

The St. Tammany Parish Medical Society held its annual meeting, installation of officers and banquet at Slidell on the night of January 14th.

The honor guest, Dr. E. Denegre Martin, of New Orleans, led a Round Table Talk on "Industrial Surgery and Kindred Subjects," the entire membership participated in the discussion and enjoyed it and a delicious repast to the fullest extent.

The following officers were installed for the year 1927: President, Dr. C. F. Farmer; Vice-

President, Dr. F. F. Young; Secretary-Treasurer, Dr. H. D. Bulloch (re-elected for the seventh consecutive term); Delegate to the Louisiana State Medical Society, Dr. A. G. Maylie; Alternate, Dr. J. K. Griffith.

The next meeting will be held at Covington on Friday, February 11, 1927.

Dr. Leon J. Menville has been appointed Chairman of the Legislative Committee of the Radiological Society of North American by the President of that Society.

MINDEN SANITARIUM.

Minden's high class new Sanitarium was dedicated and opened for business in December. It reflects great credit upon the profession and the community of that thriving little city and of Webster Parish.

Preceding the formal opening, a banquet was served in the basement of the First Baptist Church, at which Rev. Tripp was toastmaster. There was a large and representative attendance of Minden people and many physicians from other points in North Louisiana. Dr. S. F. Martin is President of the company.

TRI-STATE MEDICAL SOCIETY.

The Tri-State Medical Society of Arkansas-Louisiana-Texas held its 22d Annual meeting in Texarkana on Jan. 19-20. The following program was carried out:

Wednesday, January 19th, 1927.

9:30 o'clock

Call to Order by President, Dr. Frank S. Littlejohn, Marshall, Texas.

Invocation, Rev. J. S. Sleeper, Texarkana, U. S. A.

Welcome Address, Hon. M. E. Melton, Secretary, Chamber of Commerce, Texarkana, U. S. A.

Welcome Brothers, Dr. H. E. Murray, Texarkana, U. S. A.

President's Address, Dr. Frank S. Littlejohn, Marshall, Texas.

Scientific Program.

Chlorine Gas in the Treatment of Respiratory Diseases, Dr. J. W. E. Beck, DeKalb, Texas.

Tubercular Peritonitis, Dr. Charles H. Mosely, Monroe, La.

Differential Diagnosis in Appendicitis, Dr. Joe Beckton, Greenville, Texas.

Prenatal Care as Regards Eye and Ear, Dr. E. H. Carey, Dallas, Texas.

Interpretations of Post-Operative Symptoms, Dr. J. M. Bodenheimer, Shreveport, La.

Nephrectomy for Hydronephrosis in Five Months Old Infant, Dr. Edwin L. Beck, Texarkana, U. S. A.

Afternoon Program.

2 o'clock

Ocular Disease in Association with Nondysenteric Amebiasis, Dr. L. Hebert Lanier, Texarkana, U. S. A.

Infantile Eczema a Cold Weather Allergy, Dr. M. S. Picard, Shreveport, La.

High Mortalities in Malignancies and Its Reduction, Dr. A. C. Scott, Temple, Texas.

Opertion of Hip Joint with Moving Pictures, Dr. J. S. Speed, Campbell Clinic, Memphis, Tenn.

Blood Pressure, Dr. T. E. Wright, Monroe, La.

Some Remarks on the Diagnosis of Pulmonary Tuberculosis, Dr. A. A. Herold, Pres.-Elect Louisiana State Medical Society, Shreveport, La.

X-Ray Examination of the Gastro-Intestinal Tract, Drs. Barrow and Harwell, Shreveport, La.

Thursday, January 20th, 1927.

Ocular Manifestations of General Diseases, Drs. Caldwell and Mahoney, Little Rock, Ark.

Some Observations on the Crytalline Lens, Dr. John O. McReynolds, Dallas, Texas.

Rheumatic Heart Disease, Dr. M. A. Mortensen, Battle Creek, Mich.

The Value of Ultraviolet Irradiations on General Diseases Influencing the Ear, Nose and Throat, Dr. A. R. Hollender, Chicago, Ill.

The Value of Punch Operation for Bladder Neck Obstructions, Dr. John R. Caulk, St. Louis, Mo.

Some More Uncommon Lesions of the Sinuses, Dr. F. E. LeJeune, of New Orleans, La.

Minor Methods in Major Surgery, Dr. C. M. Rosser, Dallas, Texas.

A Case of Inoperable Malignancy of the Tonsil, Dr. John L. Scales, Shreveport, La.

Afternoon Program.

Tuberculosis, Dr. Sam Thompson, Kerrville, Texas.

Present Treatment of Bladder Tumors, Dr. Grayson Carroll, St. Louis, Mo.

Traumatic Rupture of the Bladder, Report of Three Cases, Dr. Barron Johns, Shreveport, La.

Differential Diagnosis and Treatment of Osteomyelitis and Acute Arthritis, Dr. Guy A. Caldwell, Shreveport, La.

The Treatment of a Fibroid Uterus, Dr. John A. Hendrick, Shreveport, La.

Contagious Diseases, Dr. A. G. Heath, City Health Officer, Shreveport, La.

Business meeting.

Election of officers.

Adjournment.

A large and sumptuous banquet was served on the evening of the first day, being tendered by the local medical societies. Talks were made by Dr. E. H. Carey, of Dallas, member of Board of Trustees of A. M. A., Dr. A. A. Herold, of Shreveport, President-Elect of the Louisiana State Medical Society, Mrs. Collom of Texarkana, on behalf of Women's Auxiliary of A. M. A. and Texas, and others.

DIED: Doctor Jesse L. Adams was born in Union County, Arkansas, on March 5th, 1873. He received his early education in the public schools, afterwards entering the Louisiana State University where he received his B. A. degree in 1903. He graduated from the Tulane Medical School in 1906. He then married Miss Zula Easley and moved to Monroe, Louisiana, where he has been engaged in the practice of medicine for the past nineteen years.

He served on the Board of Supervisors at the Louisiana State University from 1912 until the time of his death. He was a member of the following societies:

Ouachita Parish Medical Society

Fifth District Medical Society

The State Medical Society

The Southern Medical Association.

The American Medical Association.

The American College of Surgeons

He was a member of all branches of the Masonic Lodge, having at one time served as Worshipful Master. He was a member of the Rotary Club, having served as President of that organization.

He served as member of the Executive Committee of the St. Francis Sanitarium, of Monroe, since the standardization of that hospital. He was an efficient physician and a prominent surgeon. He was for many years and until his death one of the most prominent members of the Staff of Surgeons to the Missouri Pacific Railroad of this place.

Though there had been warnings of serious disease for sometime he was looking forward to a restful summer in the West with his family.

Such is a brief chronological account of some events in the life of a man who, through his interest in medicine and surgery, and by force of his personality became one of the most widely known men in his profession and civic obligations, and attracted from far and wide patients and friends who became devoted friends. Among his classmates in college there were many who won distinction in medicine. In the course of his busy life which carried him widely afield, he found time for many local activities.

Clearness of thought and simplicity of expression made him an enviable companion.

In the death of Dr. Adams the medical profession has suffered a great loss. An ardent student, a careful observer, a trained technician. He gave to those within and outside the profession, incalculable aid in the search for correct medical diagnosis.

Routine work was never irksome to him, since he introduced into all his labor that purely scientific spirit which is the ideal of our profession. No one who had come in any close contact with his cheerfulness and sympathy could have failed to appreciate and love him. Always a courteous gentlemen, a loyal friend, a charming companion, a faithful and conscientious physician, the world can ill afford the passing of such a personality.

DIED: Dr. James Marion Dennis, Cotton Valley, La.; Atlanta College of Physicians and Surgeons, 1904; aged 447; was killed Nov. 22, 1926, when the automobile in which he was driving plunged over an embankment.

ASSUMPTION PARISH MEDICAL SOCIETY.

The 1927 officers of the Assumption Parish Medical Society recently elected are:

President, Dr. T. B. Pugh, Napoleonville, La.

Vice-President, Dr. W. W. Pugh, Napoleonville, La.

Secretary-Treasurer, Dr. C. L. Roger, Napoleonville, La.

Delegate, Dr. W. E. Kittredge, Tallieu, P. O., La.

Alternate, Dr. W. W. Pugh, Napoleonville, La.

DIED: Dr. Hamilton P. Jones, prominent internist in the city of New Orleans, died suddenly December 5th, 1926, while automobile riding. Dr. Jones had been ill for the past six or eight months and had apparently improved sufficiently to get around comfortably.

Dr. Jones was born in New Orleans in 1872. He received his academic and medical degrees in the class of 1894. He was Associate Professor of

Chemistry under his father, Dr. Joseph Jones. In 1898 Dr. Jones acted in the yellow fever epidemic and was put in charge of a hospital on Canal Street.

In 1905, during this second epidemic, he again headed a hospital in Rampart and Dumaine Streets. He served in the Spanish-American War as a surgeon and was cited for bravery for administering medical aid under fire at San Juan Hill.

During the World War he was commissioned Lieutenant-Colonel and was put in charge of Government Hospitals at Fort Bliss, El Paso, Texas, and General Hospital No. 31 at Carlyle, Pa.

At the time of his death Dr. Jones was visiting physician at Charity Hospital and Hotel Dieu. He was a member of the Phi Delta Theta Fraternity, the Orleans Parish Medical Society, Louisiana State Medical Society, American Medical Association and Southern Medical Association.

The Journal extends its deepest sympathy to his widow and his son.

DIED: On December 23, 1926, Dr. John Frederick Oechsner, surgeon, of New Orleans, succumbed to heart trouble. He was 58 years old. Dr. Oechsner was for thirty years a member of the Charity Hospital staff and during 1923-24 was chairman of visiting staff. For many years he served as chief visiting orthopedic surgeon. In 1894 he was appointed assistant in surgery in Tulane; in 1897 he was appointed assistant demonstrator of anatomy; and in 1909 he was appointed professor of orthopedic surgery, a position he held until death. He was an active worker in the Rotary Club, the Charity Organization Society, the Warrington Home and the Travelers' Aid Society.

He was a member of the national board of governors of the Unitarian church, a thirty-second degree Mason, a knight commander court of honor Scottish Rite, member Chess, Checkers and Whist Club and Round Table Club. He was a member of the Orleans Parish Medical Society, Louisiana State Medical Society, Southern Surgical and Gynecological Association and American Medical Association.

Dr. Oechsner was born in New Orleans in 1868, graduated from the Boys' High School in 1885, and graduated in medicine at Tulane in 1895. He served his internship in Charity Hospital, New Orleans.

To the widow and to his children the *Journal* extends deepest sympathy.

TO THOSE INTERESTED IN DIATHERMY.

We are pleased to announce that Dr. Noble M. Eberhart, Chicago, Ill., will give practical demonstration on the use of Diathermy apparatus, as well as hold several clinics at the Hutchinson Memorial, New Orleans, La., beginning March 7th, 1927.

These lectures will be free to the profession, and all interested are invited to attend.

The following members of the faculty of the Graduate School of Medicine of the Tulane University of Louisiana attended the meeting of the Southern Surgical Association held at Biloxi, Miss., December 14, 15, 16, 1926:

Dr. E. Denegre Martin

Dr. Urban Maes

Dr. C. Jeff Miller

Dr. Joseph A. Danna

Dr. H. W. Kostmayer

Dr. Hilliard E. Miller

Dr. H. W. Kostmayer, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the LaSalle Parish Medical Society at their meeting held Thursday, January 6th, 1927, at Olla, La., the subject being "Some Non-Surgical Gynecological Procedures."

Dr. D. N. Silverman, a member of the faculty of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the Harrison County Medical Society at their meeting held at Houston, Texas, Wednesday, January 5th, 1927, on "The Differentiation of Achylia Gastrica by Means of Histamine."

Dr. Robert Bernhard, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the meeting of the Homochitto Valley Medical Society, at Natchez, Miss., on Thursday, January 13, 1927, on "Diseases of the Lung, Especially Pneumonia."

CITATION FOR THE AWARD OF THE SOFIE A. NODOFF-JUNG CANCER PRIZE.

The Sofie A. Nordoff-Jung Prize for the best contribution in Cancer Research during the past year has been awarded to Dr. Otto Warburg, Director of the Department of Biology of the Kaiser Wilhelm Institute, Berlin-Dahlem. The award was made on the unanimous decision of the commission.

The novel methods of investigation, developed by Professor Warburg, have opened reliable channels for tests on the metabolism of surviving tissues under varying conditions. With a single predetermination he has made available an abundance of valuable material through comparative experimentations on the processes of disintegration and oxydation of normal tissues and neoplasms. His biochemical attack on the cancer problem presages the most promising results.

Professors Borst, Doederlein, von Romberg, and Sauerbruch, all of the University of Munich, form the awarding commission.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Physiotherapy aide

Physiotherapy pupil aide

Physiotherapy assistant

Application for these positions must be on file at Washington, D. C., not later than March 12 and May 28, 1927. The date of assembling of competitors will be stated on admission cards sent to applicants and will be about ten days after the date for the close of receipt of applications. Applications received after a closing date will be considered for the next date.

The examinations are to fill vacancies in the Field Service of the Veterans' Bureau and the Public Health Service.

The duties of physiotherapy aides consist of administering physiotherapy in its several branches—massage, electrotherapy, hydrotherapy, mechanotherapy, thermotherapy; active, passive, resistive, and assistive exercises and remedial gymnastics; keeping daily record of the work and progress of each and every patient coming under direction and treatment; making the required reports of the activities of the reconstruction work in physiotherapy.

The duties of physiotherapy pupil are the same as those for physiotherapy aides, except that they are pupils under the supervision and instruction of the chief aide in all the work above mentioned.

The duties of physiotherapy assistant consist of administering to special cases the treatments of physiotherapy, as massage, electrotherapy, hydrotherapy, thermotherapy, mechanotherapy; active, passive, assistive, and resistive exercises; remedial gymnastics; keeping a daily report of the work in progress on each patient under the appointee's

direction and treatment; and making the required reports of the activities of the reconstruction work in physiotherapy.

Competitors will be rated on practical questions and their education, training, and experience. Competitors in the examinations for physiotherapy aide and physiotherapy pupil aide will also be rated on a mental test.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C.....February 7, 1927

At Chicago, Ill.....February 7, 1927

At New Orleans, La.....February 7, 1927

At San Francisco, Cal.....February 7, 1927

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional experience. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

NURSING EDUCATION, UNIVERSITY OF CALIFORNIA.

A chair of nursing education has been established in the University of California, the new department to open with the new year. Instruction for teachers and administrators in schools of nursing will be correlated with other departments of the university. The endowment was furnished from registration fees paid by California nurses and made at their request.

ACCIDENTS TO WORKING CHILDREN.

Only three out of nine children injured or killed in industrial accidents in the State of Illinois in August, 1926, had the right to work, according to the State department of labor in its bulletin for September. Six of these girls and boys were illegally employed, and as a result of their employment one boy 12 years old was killed, one boy working on a power machine lost his arm, and one girl lost four fingers at the middle joints. The three remaining children employed illegally received temporary injuries causing them to lose time from work. In addition to these 9 accidents to working children under 16 years of age there were reported during August 86 industrial accidents to boys and girls of 16 and 17 years. One boy was killed and 7 boys and 4 girls suffered permanent injuries.

During the following month nine accidents to working children under 16 were reported, four of them to children employed illegally. Such children do not come under the protection of the workmen's compensation law. Employers can not get insurance from any company for children illegally employed. The Labor Bulletin urges employers to obtain proper working certificates for their child employees.

The executive committee of the board of visitors of the Medical College of Virginia, Richmond, has authorized President W. T. Sanger and the college authorities to map out a twenty-year building program preliminary to the construction of three new buildings projected for the immediate future. These will include a women's dormitory, a new clinic for the walking sick, and laboratory for chemistry, bacteriology, and pathology.

At the memorial exercises held at the Medical College of Virginia, Richmond, on January 7, for Dr. John W. Brodnax, anatomist and artist, who died last October, papers were read by Dr. W. Lowndes Peple, Dr. Robert C. Bryan, Dr. H. L. Osterud, Dean W. F. Rudd, and Mr. Rufus Alley. Doctor Brodnax was a member of the department of anatomy of the Medical College of Virginia for thirty-three years.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Dietitian

Applications for dietitian will be rated as received until June 30, 1927. The examination is to

fill vacancies in the Public Health Service and the Veterans' Bureau throughout the United States.

The entrance salary in the Public Health Service is \$1,800 a year when no additional allowance is furnished; when quarters, subsistence, and laundry are furnished the compensation is \$1,020 a year. The usual entrance salary in the Veterans' Bureau ranges from \$1,680 to \$2,040 a year.

The duties are to purchase the food supplies for all messes operated in the hospital; to plan all menus, both for patients on ordinary diets and diets with reference to special diseases; and the supervision of the preparation and serving of all dietaries in the hospital, both to patients and personnel.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Assistant medical officer

Associate medical officer

Medical officer

Senior medical officer

Applications will be rated as received by the United States Civil Service Commission at Washington, until June 30, 1927.

There is especial need for medical officers qualified in tuberculosis or neuropsychiatry, for duty at hospitals of the Veterans' Bureau. There are a number of vacancies in position in the Indian Service which call for training in general medicine and surgery. In addition, there is opportunity for appointment of specialists in practically all branches of the profession.

In addition to the Veterans' Bureau and the Indian Service, appointments from these examinations will be made to the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Departmental Service at Washington, and other branches.

The demand for specialized medical officers in the Federal service is constant and the supply of eligibles is rarely equal to the demand.

Applicants will not be required to report for written scholastic tests, but will be rated on their education and training, and their practical experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

RESULTS OF THE MOHONK CANCER SYMPOSIUM.

The Symposium on Cancer Control held at Lake Mohonk, N. Y., September 20-24, was for the purpose of considering the prevention and cure of cancer from a practical standpoint, and to express in concise language the fundamental groundwork of fact and opinion upon which the collective effort now being made in the United States and other countries for the control of cancer should be continued and extended.

It was believed that there were many things which physicians and surgeons could agree upon, and that if these agreements could be expressed in simple, concise language the results would be of much value.

The meeting was brought about by the American Society for the Control of Cancer and was first announced many months ago.

Among the noted European specialists present were: Dr. Raffello Bastianelli, Professor of Surgery at the University of Rome; Dr. Leon Berard, Professor of Surgery at the University of Lyons; Sir John Bland-Sutton, Bt., President of the Royal College of Surgeons, Vice-Chairman of the British Empire Cancer Campaign; Dr. Ferdinand Blumenthal, Professor of Internal Medicine at the University of Berlin; Dr. William deVries, President of the Netherlands Cancer Institute, Amsterdam, Professor of Pathologic Anatomy at the University of Amsterdam; Dr. Henri Hartmann, Professor of Surgery at the University of Paris; Dr. J. Maisin, Professor at the University of Louvain; Dr. James A. Murray, Director of the Imperial Cancer Research Fund, London; Dr. Claude Regaud, Director of the Pasteur Laboratory of the Radium Institute, Paris; Dr. Albert Reverdin, General Secretary to the Anti-Cancer Center of Geneva.

Among the Americans were: Dr. Howard Canning Taylor, Professor of Clinical Gynecology at Columbia, President, Dr. Francis Carter Wood, Director of the Institute for Cancer Research, Columbia, Vice-President, and Dr. George A. Soper, Managing-Director, of the American Society for the Control of Cancer; Dr. Robert B. Greenough, member of the Harvard Cancer Com-

mission and Director of the Huntington Memorial Hospital, Boston; Dr. James Ewing, Professor of Pathology, Cornell Medical College, and Director of the Memorial Hospital, New York; Dr. Charles Mayo, Rochester, Minnesota; Dr. Joseph Colt Bloodgood, Associate Professor of Clinical Surgery at Johns Hopkins University; Dr. William H. Welch, Director of the Institute of Hygiene and Public Health, Johns Hopkins University; Dr. Burton J. Lee, Dr. George H. Semken, Dr. Willy Meyer, Dr. Isaac Levin, Dr. John Shelton Horsley of Richmond, Dr. Alson R. Kilgore of San Francisco, Dr. Alexandria Primrose of Canada, Miss Maud Slye of Chicago, and Dr. Erwin Smith of Washington.

The program consisted of twenty-seven carefully prepared papers covering practically every phase of the cancer problem. These were read and discussed. Differences of opinion with regard to some of the scientific and theoretical details underlying the present conception of cancer and its causation existed, but when it came to discussing the large and important steps to be taken for the better control of the disease, the meeting was unanimous.

Two resolutions were passed, after careful consideration by a committee and discussion before the whole gathering. One was a proposition to form an international federation in order to bring about more meetings like the Mohonk symposium and publish in at least three languages an index and abstract of all papers on cancer which appeared anywhere in the world. By resolution this proposition was referred to the many national societies against cancer, with a recommendation that the plan, or one similar to it, be adopted, if, upon further study, means could be found for deferring the cost of the work.

The second resolution was the adoption of a statement of the facts and opinions upon which campaigns against cancer should be conducted.

At a dinner to the foreign guests held in New York at the end of the symposium, and attended by about 250 physicians, Sir John Bland-Sutton declared that the meeting would make medical history. He spoke in part as follows:

"We have had a very strenuous week, and I will say in all my experiences in congresses and association meeting I have never been to one in which there was a more complete absence of acrimony and so much work was accomplished. The zeal which led so many investigators, surgeons and physicians to cross the Atlantic and come from all parts of the American Continent is creditable, and the earnestness they displayed in the conference is beyond all praise. In fact, they were so earnest in their discussions that they even con-

tinued them on the hotel porches and in the dining room. This meeting is certain to make medical history."

Dr. Wendell Phillips, President of the American Medical Association, said:

"This meeting has done much to stabilize the knowledge that we have of cancer, and it will clarify the opinions, not only of medical men, but of the public. In this respect it will accomplish what no other meeting has done before. It is a great thing to preach up the right rather than to preach down the wrong, and those who have been at Mohonk have been preaching up the right. They have not been making any attacks on individuals or institutions. During this week my telephone has been rung time and time again, not only by newspapers, but by doctors, and the question has been asked, why was not a certain group of men up at Lake Mohonk. I had the pleasure of answering them, and fully explaining why these persons were not at Mohonk. The reasons were excellent."

"The great note struck at the Mohonk symposium," declared Dr. Welch, "was the tremendous importance of the cancer question and the appalling problems which it presents. There was never a time when tuberculosis presented problems of such magnitude. The general public and the medical profession must be aroused to the vital importance of efforts to control cancer. However inadequate our knowledge is today, it is an obligation of the profession to the general community that every effort be made to control this scourge. The community must be taught that all types of cancer are not certainly and inevitably fatal if they are recognized and properly treated at an early stage. Emphasis was placed upon the importance of research work, the need of further additions to our knowledge on the one hand, and equally, upon the necessity of applying our existing information for the saving of human life and suffering. There is no disease to which larger additions have been made to our knowledge than cancer, but because this knowledge does not reach the public which we are most anxious to reach, this seem trivial. The many papers and discussions will be published, and make a volume which will be an epochal contribution to our knowledge of cancer."

STATEMENT OF THE FACTS AND OPINIONS
AGREED TO BY THE INTERNATIONAL
MEETING ON CANCER CONTROL HELD
AT LAKE MOHONK, N. Y., SEPTEMBER
20-24, 1926.

Although the present state of knowledge of cancer is not sufficient to permit of the formula-

tion of such procedures for the suppression of this malady as have been successfully employed for the control of infectious diseases, there is enough well established fact and sound working opinion concerning the prevention, diagnosis and treatment of cancer to save many lives, if this information is carried properly into effect.

1. The causation of cancer is not completely understood, but it may be accepted that for all practical purposes cancer is not to be looked upon as contagious or infectious.

2. Cancer itself is not hereditary, although a certain predisposition or susceptibility to cancer is apparently transmissible through inheritance. This does not signify that, because one's parent or parents or other members of the family have suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generation.

3. The control of cancer, so far as this subject can be understood at the present time, depends upon the employment of measures of personal hygiene and certain preventive and curative measures, the success of which depends upon the intelligent co-operation of the patient and physician.

4. Persons who have cancer must apply to competent physicians at a sufficiently early stage in the disease, in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

5. Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospects for a permanent cure is good.

6. The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

7. The public must be taught the earliest danger signals of cancer which can be recognized by persons without a special knowledge of the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

8. Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

9. Surgeons and radiologists must make constant progress in the refined methods of technic

which are necessary for the diagnosis and proper treatment not only of ordinary cases but of the more obscure and difficult ones.

10. There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more ready he is to share responsibility with a specialist.

12. Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from X-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

12. Medical students should be instructed in cancer by the aid of actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

13. The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and X-rays.

14. Emphasis should be placed upon the value of the dissemination of the definite, useful and practical knowledge about cancer, and this knowledge should not be confused nor hidden by what is merely theoretical and experimental.

15. Efforts toward the control of cancer should be made in two principal directions: (1) The promotion of research in order to increase the existing knowledge of the subject; and (2) the practical employment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.

SPECIAL ATTENTION.

Contrary to our wishes and regardless of the unusual scrutiny and protection which has always surrounded our advertising policy to prevent the use of the *Journal* for the purpose of exploiting fraudulent advertising, there appeared in the recent issues of the *Journal* a fraudulent advertisement from the Acme Farms, Gainesville, Florida.

We regret the instance very much, and would request to hear from any of our subscribers who have lost anything by answering the advertisement in question, in order that attempts may be made to have same satisfactorily adjusted.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

At the January meeting of the DeSoto County Medical Society the following officers were elected:

President—A. V. Richmond, Lake Cormorant.

Vice-President—H. A. Stuart, Olive Branch.

Secretary & Treasurer—L. L. Minor, R-4, Memphis.

Delegate to State Association—A. L. Emerson, Hernando.

Alternate Delegate—L. L. Minor, Memphis.

The society decided to retain its charter and not to unite with any other county or counties to form a larger organization.

The society meets every other month.

The Tri-County Medical Society met in Brookhaven, December 14, 1926, and had Dr. Carrol W. Allen as its guest of honor.

Dr. W. H. Frizell presented clinical cases.

Dr. O. M. Arrington, in his presidential address, recommended that county health units be employed in particular for the study of prevention of disease.

The following officers were elected for the ensuing year:

President—Dr. A. B. Harvey, Tylertown.

Vice-President—Dr. J. E. Brumfield, Tylertown.

Vice President for Pike—Dr. M. D. Ratcliffe.

Vice President for Lincoln—Dr. Geo. T. Warren.

Vice President for Copiah—Dr. J. M. Catchings.

Secretary-Treasurer—Dr. Elise Rutledge, McComb.

Delegates to the State Medical Association—Dr. B. L. Crawford, Walthall; Dr. O. N. Arrington, Lincoln; Dr. W. L. Little, Copiah; Dr. E. B. French, Pike.

Censor—Dr. W. L. Little, Copiah.

Chairman Medical Defense—Dr. F. E. Collins.

The society will apply for a new charter authorizing the entrance of Lawrence County into the group.

The Woman's Auxiliary of the Tri-County Medical Society met at the same time with Mrs. T. E. Hewitt of Summit presiding. She spoke on "A Day in the Life of the Wife of a Country

Doctor." A vote of thanks for the organization was given Mrs. W. H. Frizell, district organizer of the auxiliary.

For the ensuing year the following officers were elected:

President—Mrs. J. H. Johnson.

First Vice President—Mrs. O. N. Arrington.

Second Vice President—Mrs. E. B. French, McComb.

Corresponding Secretary—Mrs. Givens, Pike.

Recording Secretary—Mrs. G. T. Warren;

Treasurer—Mrs. Bauer, McComb.

The North East Mississippi Medical Society met at Tupelo on December 21, 1926. This was a joint meeting of the Doctors, Dentists, Nurses, and Pharmacists. The following program was presented:

"Circumcision," Dr. C. B. Mitchell, Starkville.

"Co-operative Medicine," president's address, Dr. W. J. Aycock, Derma.

"The Need of a More Active Co-operation between the Medical and Nursing Professions," Miss Mayme B. Lynch, R. N., President Graduate Nurses Association, Columbia.

"Medicine of the Past and Present," Dr. H. M. Faser, Dean of Pharmacy, University of Miss.

"The Status of the Pulpless Teeth," Dr. Justin D. Towner, Periodontist, Memphis.

"Dental Impactions, their relation to the Nervous System, a lantern slide lecture," Dr. John J. Ogden, Exodontist, Memphis.

"Health Service of the Future," Dr. C. C. Bass, Dean of Tulane, New Orleans.

"Public Health, the Greatest Fundamental Problem in America, and What the Mississippi Developing Board is Doing About It," L. J. Folse, Mgr. Mississippi Developing Board.

"Indications for Urological Study," Dr. C. D. Allen, Memphis.

"Diseases of the Prostate Gland, Their Medical and Surgical Treatment," Dr. Russell A. Hennessy, Memphis.

The following officers were elected for 1927:

President—Dr. S. L. Nabors, Itawamba, Nettleton, Miss.

County Vice Presidents;

Alcorn—Dr. W. A. Johns, Corinth.

Clay—Dr. J. E. Ellis, West Point.

Calhoun—Dr. J. B. Shaw, Slate Springs.

Itawamba—J. T. Senter, Fulton.

Lee—J. M. Boggan, Tupelo.

Lowndes—W. C. Brewer, Columbus.

Monroe—J. B. Sims, Aberdeen.

Noxubee—A. R. Sanders, Brooksville.

Oktibbeha—H. L. Scales, Starkville.

Pontotoc—L. O. Carruth, Pontotoc.

Prentiss—L. L. McDougal, Booneville.

Tishomingo—A. E. Bostick, Golden.

Secretary and Treasurer—Dr. James A. Acker, Aberdeen.

The March meeting will be held in Amory.

Dr. J. Bethea of Hattiesburg, Mississippi, is now convalescing from a serious illness of several weeks duration.

Finishing touches are now being given the new Methodist seventy-five bed hospital at Hattiesburg.

At the December meeting of the South Mississippi Medical Society Dr. E. M. Harrelson of Stringer was elected President and Dr. R. H. Foster of Laurel, Secretary for 1927.

The first meeting of the Issaquena-Sharkey-Warren County Medical Society was held at the Y. M. C. A. at Vicksburg, January 11. The program was as follows:

"Subdeltoid Bursitis," Dr. J. A. K. Birchett, Jr.

"The Indications for Surgery of the Thyroid," Dr. W. H. Parsons.

The Society discussed plans for entertaining the State Medical Association at its annual convention, May 10-12, 1927.

The first quarterly meeting of the Homochitto Valley Medical Society was held in Natchez, January 13, the president, Dr. W. R. Brumfield, in the chair.

Dr. Robert Bernhard of the staff of Tulane University, New Orleans, lectured on pneumonia and Dr. J. S. Ullman spoke on the treatment of cancer of the uterus.

Dr. Raymond T. Smith, Natchez, Mississippi, was elected to membership.

The nurses home of the Chamberlain-Rice Hospital was damaged by fire. It has been announced that the building will be repaired and remodeled.

A news item stated that the Jackson Charity Hospital, which has been closed for more than two months because of lack of funds, would re-open as soon as the funds for 1927 became available.

INDIGENT PHYSICIANS.

The American Medical Association is engaged at the present time in making a survey of the entire country in an effort to ascertain how many physicians there may be in destitute circumstances and who have no relatives able to support them. This is a most worthy undertaking and if any member of the Mississippi State Association knows of any such physician in his vicinity he would aid in this work by communicating with the secretary of the State Association or with the editor of this column giving the necessary data.

BOOK REVIEWS

Textbook of Embryology: By Harvey Ernest Jordan, A. M., Ph.D., and James Ernest Kindred, A. M., Ph.D. Plates. New York and London: D. Appleton & Co. 1926.

The purpose of this text to present a straightforward account of human development is accomplished by giving the established facts in development, based on human material when possible, and by filling the gaps in our knowledge of development with logical hypothetical stages instead of giving an excessive mass of comparative data. Comparative embryology and anatomy, however, have not been entirely ignored.

The early stages of development are treated concisely and largely comparatively. The chapters dealing with the origin and differentiation of the human organ-systems (organogenesis), are quite elaborate and comprehensive. At the end of each chapter there is given a brief description of certain developmental anomalies which may occur in connection with the organs described in the chapter. In chapter XXVI (teratology), the nature and origin of the more complex anomalies and monsters are discussed, and also the causes underlying the origin of malformations. The last part comprises a laboratory manual for the study of chick and pig embryos.

The book is profusely illustrated; but unfortunately, instead of securing a loan of all original plates, a number of illustrations are distorted by poor copying.

Even though the book has been prepared for the use of medical students, primarily, it does not merit recommendation as a standard text owing to the inclusion of much subsidiary material and the briefness with which it treats the origin and history of fetal membranes. Nevertheless it contains much readable material for students; and the special consideration given such topics as sex-determinations, phylogeny, twinning, eugenics, and teratology render this book especially valuable to the medical profession at large.

M. DEES MATTINGLY, M. D.

Leadership: A Manual of Conduct and Administration: By William Colby Rucker, M. S., M. D., Dr. P. H., Surgeon, U. S. Public Health Service. New York: The Macmillan Company. 1926.

The successful practitioner of medicine or public health must be a leader. In the extensive curriculum of study which the student must pursue before he may be allowed to follow either of these

professions, this subject is generally omitted and in presenting this book, the author has met a real need. While it is written largely from the viewpoint of the Public Health Service, this little volume is packed with mental pabulum which is bound to be nourishing to the field of institutional and general medicine. Under the caption of "Self Leadership," those basic principles which are essential to adequate self direction and control are laid down. These are then elaborated in their multiform applications to the leadership of others. The subject matter proceeds logically, is sound in conception and pleasing in execution. The discussion of character and its formation is wise and every paragraph is full of real meat. The book is thoroughly readable throughout and bespeaks much experience and intelligent observation. There is a good index and the publisher has produced a well-printed and attractively bound volume of convenient size. It should receive an enthusiastic reception from the entire field of medicine, particularly in Louisiana where Doctor Rucker is so well known.

OSCAR DOWLING, M. D.

Practical Dietetics for Adults and Children in Health and Disease: By Sanford Blum, A. B., M. S., M. D. 2d rev. ed. Philadelphia: F. A. Davis Co. 1926.

A very good compend for the busy practitioner. It is well arranged, clear and complete. The diet outlined is correct from the medical standpoint and is such that the patient can and will follow. Diets which are too stringent are as a rule seldom followed. The part describing X-ray preparation diet is valuable. The book does not discuss skin food tests, so the diets given for Hay Fever and various skin affections may require modification before being applied to individual cases, but the diets outlined for Colitis and Constipation are particularly good.

NARCISSUS THIBERGE, M. D.

Principles of Medical Treatment: By George Cheever Shattuck, M. D., A. M. With contributions by other authors. Cambridge: Harvard University Press. 1926.

The medical profession has used and appreciated five previous editions of Professor Shattuck's useful little manual and the sixth edition will doubtless replace many a dog-eared copy in busy practitioners' handbags and on their desks. The general arrangement of topics is the same as in previous editions but the subject matter is brought up to date. Late procedures and discoveries are con-

sidered in a conservative manner and the information imparted is from the actual experience of the author or the contributors or is drawn from authoritative sources. The chapter on "Pre-operative and Post-operative Medical Treatment" contains useful and important information presented in an unusually accessible form.

FRANCIS M. MUNSON, M. D.

The Practical Medicine Series. General Medicine:
 Edited by Charles L. Mix, George H. Weaver,
 Lawrason Brown, Robert B. Preble and Ralph
 C. Brown, Chicago: The Year Book Pub-
 lishers. 1926.

The 700 pages devoted to the subject of medicine as it appeared in current medical publications during the past year, represent a clear and critical summary of the advances in medicine during this period of time. The four sections indicate, in the amount of space devoted to the several diseases, the interest that has been shown in experimental and clinical work in these diseases during the past year. It is of interest to note that 41 pages are devoted to scarlet fever, 15 pages to encephalitis, nearly 100 pages to tuberculosis, 51 pages to diseases of the stomach, 30 pages to diseases of the liver and gall bladder. It is also of interest to contrast the space allotted to these diseases with the space allotted to these and other diseases in the past volumes. Tuberculosis has always had much space devoted to it, whereas the tide of interest in certain diseases has ebbed and flowed and many more pages have been devoted to other diseases than to those which now claim attention and intensive study.

J. H. MUSSER, M. D.

Medical Diagnosis: By James M. Anders, M. D.,
 Ph.D., LL.D., and L. Napoleon Boston, A. M.,
 M. D. Third edition. Philadelphia: W. B.
 Saunders Co. 1925.

The general plan of the second edition has been retained in the third edition of this splendid text of Medical Diagnosis. The descriptive cases to be found in previous editions have been omitted, but the diagnostic tables have been retained and brought up to most recent Clinical and Laboratory standards. Several newly described diseases and conditions, and a large number of subjects to which much material has been added are presented. Particularly in Blood Chemistry, Basal Metabolism, Electrocardiography, and Röntgenology. Numerous illustrations with photographs and colored plates are given.

R. T. LILES, M. D.

Element of Pathology: By Allen G. Ellis, M. Sc.,
 M. D. Philadelphia: P. Blakiston's Sons &
 Co. 1926.

This text has been carefully reviewed and it can be recommended very highly, for the medical student, especially the beginners. The elements of Pathology are simply and well explained. Dr. Ellis' chapters on post-mortem work are well written and should be a great help to those interested in this subject.

ANDREW V. FREDRICH, M. D.

CORRECTION.

Our attention has been called to the fact that in the book review of Surgical Treatment of Goiter, by Willard Bartlett, appearing in the January number of this journal, the statement is made "The chapter Details of Technic is inadequate." This is an error which escaped the attention of the proofreader. The sentence should read, "The chapter on Details of Technic is adequate," thereby changing the judgment of the reviewer from negative to positive. We very much regret this error and are glad of this opportunity to correct it.

PUBLICATIONS RECEIVED.

The MacMillan Company, New York: "Transfusion of Blood," by Henry M. Feinblatt, M. D.

Paul B. Hoeber, New York: "The Life and Time of Adolf Kussmaul," by Theodore H. Bast, Ph. D. "The Normal Child," by B. Sachs, M. D. "History Taking and Recording," by James A. Corscaden, M. D.

J. B. Lippincott Company, Philadelphia and London: "International Clinics, Vol. IV, Thirty-sixth Series, December, 1926."

W. B. Saunders Company, Philadelphia and London: "The Specialties in General Practice," compiled by Francis W. Palfrey, M. D. "A Manual of Pharmacology," by Torald Sollmann, M. D.

Washington Government Printing Office: "Annual Report of the Surgeon General of the Public Health Service of the United States. 1926."

The Year Book Publishers, Chicago: "The Practical Medicine Series, General Surgery, edited by Evarts A. Graham, A. B., M. D.

Reprints

"A Modern Belladonna Plaster," by Fred B. Kilmer, Ph. M., New Brunswick, N. J.

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PRURITUS ANI AND PRURITUS VULVAE OF FUNGAL ORIGIN.

ALDO CASTELLANI, M. D.,

Professor of Tropical Medicine, Tulane University

NEW ORLEANS.

Pruritus ani of fungal origin, which I described as a separate entity some years ago, is little known, though in my experience of fairly common occurrence; no description of it is given in text books, and even in very recent papers on pruritus ani it is not mentioned, although the so-called bacterial pruritus ani (*streptococcus pruritus ani*) is often discussed.

DEFINITION.

Mycotic (phycotic) pruritus ani is a form of pruritus ani caused by fungi higher than bacteria (mycetes, higher fungi), generally fungi of the genus *Epidermophyton*, the same fungi which cause pruritus interdigitalis pedum (toe phyto-sis, dermatitis interdigitalis mycotica, mango toe), and also ordinary *dhobie* itch or *tinea cruris*, or *epidermophytosis inguinalis*. The condition is, in fact, as a rule, a form of latent *epidermophytosis* of the anoperianal region without the usual objective symptoms.

SYNONYMS.

Phycotic pruritus ani, mycetic pruritus ani, mycotic pruritus ani, fungal pruritus ani, pruritus ani due to the higher fungi, *epidermophyton pruritus ani*.

Clinical Symptoms.—The patient complains of very severe pruritus, not, as a rule, continuous, but at intervals. The pruritus is often worse at night, but the attacks of unbearable itching may come on at any time. The inspection of the anoperineal region in very recent cases may reveal nothing at all except, perhaps, signs of scratching, but in most cases, on careful examination, minute red, slightly raised, infiltrated patches may be seen in the perianal region, occasionally arranged into two curved lines. In a number of old cases signs of dry or moist exzematous dermatitis are present, and *streptococcus* and other secondary bacterial infections may become engrafted on the mycotic condition. In some old-standing cases the skin is thickened, lichenified, and presents the picture of the so-called *eczema ani* *chronicum* of old authors. When the secondary bacterial infection becomes very heavy, especially if many *coli* and *proteus bacilli* are present, the fungus may disappear completely or become extremely scarce.

ILLUSTRATIVE CASES.

Case 1 (uncomplicated type).—This case has already been published by me in the "Journal of Tropical Medicine." The patient, a Ceylon planter, came to consult me in October, 1924. He had been suffering from anal pruritus for six years, and had tried numerous ointments and lotions without any permanent benefit. He denied ever having had *dhobie* itch or mango toe (*epidermophytosis interdigitalis pedum*). The examination of the ano-perianal region did not show anything abnormal, except on close examination a very few minute red patches which did not give the impression of an *epidermophytic* infection; no

lesions of any kind were found in the scroto-inguinal regions. Scrapings were made every other day for two weeks, and were examined microscopically in liquor potassae; they were always negative except on one occasion, when a few spores and portions of mycelial threads were seen. After many failures a fungus was grown with all the characteristics of *epidermophyton cruris*. An ointment containing salicylic acid, eucalyptus oil, mercury salicylate, bismuth subnitrate (Deek's ointment), cured the condition.

Case 2.—Mr. A. G., aged 40, has never been out of Europe. Came to consult me in February, 1925. Six years before began complaining of pruritus ani, and after a sojourn of several months in the south of France, was treated with various ointments without any distinct benefit. At the time he consulted me the skin about the anus was red and somewhat thickened. The inspection of the inguino-crural region showed absence of dhobie itch, and the patient denied ever having had it. On questioning him I elicited the fact that he had been suffering from pruritus interdigitalis pedum for several years; inspection of the toes showed a few cracks and slight desquamation. From scrapings of the toes I obtained *epidermophyton cruris* fairly easily, but scrapings from the ano-perianal region, made and examined daily, remained negative for nineteen days, when a few mycelium segments of a fungus were found. The fungus was grown with very great difficulty owing to the presence of numerous cocci and bacilli, and found to be *E. cruris*. In this case, a sulphur salicylic ointment and a tar ointment answered well.

Case 3.—Mr. N. B., aged 25, has been in the Far East for three years. He consulted me in November, 1924. Had dhobie itch two years previously, which, he says, was cured by a Goa powder ointment. For six months previous to the time I saw him he had severe pruritus ani. Examination of the ano-perianal region showed nothing except signs of scratching. After many attempts *E. cruris* was grown.

Case 4.—Young woman, English, a planter's wife, while in Ceylon developed severe pruritus ani which did not answer to any therapeutic measure. Came from the tropics to London to the beginning of November, 1925, and consulted me a few days after her arrival. In the perianal region several minute red patches were present. Scrapings revealed presence of spore-like bodies and a few mycelial segments. The fungus on cultivation was found to be *E. rubrum*. Deek's ointment cured the condition.

Case 5.—Mr. F. M., Englishman, 22 years of age, has never resided in tropical countries. In

August, 1925, consulted me for typical *T. cruris* (dhobie itch), localized to the inguino-scrotal region. The ano-perianal region was not affected, and the patient did not complain of pruritus ani, but only of severe pruritus in the inguinal region. Under an appropriate treatment all the symptoms disappeared. He came to consult me again very recently (May, 1926), complaining solely of intense anal pruritus. The skin of the inguinal and scroto-crural region was absolutely normal, and there was no pruritus. The ano-perianal region showed an eczematous dermatitis with redness and slight scaling, but with no festooned appearance of an ordinary case of dhobie itch; in fact, but for the history of previous *T. cruris* nothing pointed to a mycotic dermatitis. *E. rubrum* was grown, and all the symptoms disappeared by using the following ointment: Acid salicy. gr. 30; sulphur pr. gr. 30; vaseline 1 oz.

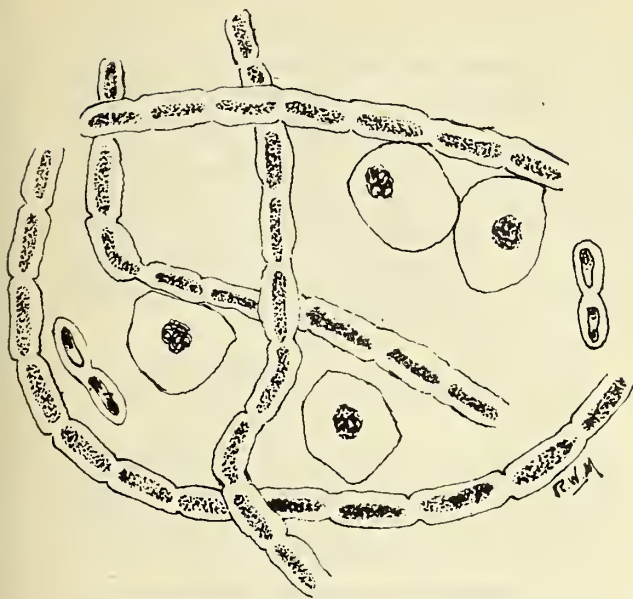
Case 6.—Italian, has been in the States for twenty years. Does not give any history pointing to *Tinea cruris*. For the last ten years he has been suffering off and on from exceedingly severe pruritus ani. Came to consult me in April, 1926. The skin of the perianal region was thickened, lichenified. The microscopic examination of scrapings showed presence of a few mycelial segments and spore-like bodies. The fungus on cultivation was found to be very similar to *Epidermophyton cruris*. The sulphur salicylate ointment induced a great improvement in the condition. I do not know the ultimate result as in May I left for Europe.

AETIOLOGY.

The cause of the condition is generally to be found in the presence of the fungi of the genus *Epidermophyton*, the same fungi which produce ordinary *tinea cruris* (dhobie itch, *Tinea inguinalis*, *Epidermophytosis inguinalis*), and pruritus interdigitalis pedum; occasionally fungi of the genus *trichophyton* may be present. The species of *epidermophyton* found have been *E. cruris* and *E. rubrum*; yeast-like fungi are also often present, but I doubt whether they play an important aetiological role. It may, perhaps, be useful to touch briefly upon the botanical characters of *epidermophyton* fungi, *trichophyton* fungi, and yeast-like fungi.

GENUS *EPIDERMOPHYTON*, LANG, 1879, EMENDAVIT SABOURAUD, 1907.

Definition.—*Trichophytinae* with mycelial filaments and spores present in the lesions, and with pluri-septate spindles present in the cultures. Do



Epidermophyton cruris, in scraping from skin.

not attack the hair or hair follicles, but grow in the superficial layers of the epidermis.

Type Species.—*Epidermophyton cruris* Castellani, 1915 (synonyms: *E. inguinalis*, Sabouraud, 1907; *E. castellanii*, Brooke, 1908).

REMARKS.

The fungi belonging to this genus grow superficially on the skin without invading the hairs and hair follicles, certain authorities, however, state that they may infect lanugo hair; do not produce suppuration. Reproduction takes place principally by pluri-septate spindles or macroconidia, with, on the average, four to six cells. The septa, as noted, by Pinoy, may not be complete, and the cavities may communicate. Spiral hyphae, as found in most species of trichophyton, are absent; pectinate structures, as found in the microsporons, are absent, no spore-bearing hyphae, with lateral conidia of type *Acladium*, as noted both in the trichophytos and the microsporons. The cultures undergo rapid degenerative changes, losing their characteristics, and becoming covered with abundant uniform, long, white duvet (pleomorphism). They are not inoculable into guinea pigs, except Pinoy's epidermophyton *simii*. The species so far known have been isolated from human lesions, except the epidermophyton discovered by Pinoy in monkeys.

TABLE OF EPIDERMOPHYTONS.

Genus

Epidermophyton, Lang, 1879.

Emendavit Sabouraud, 1907.

Species

E. cruris, Castellani, 1905.

E. perneti, Castellani, 1907.

E. rubrum, Castellani, 1907.

These species may be recognized by their growth on Sabouraud's agar:

- (a) Color: peculiar yellow.....*cruris*
- (b) Color: pinkish*perenti*
- (c) Color: deep red*rubrum*

For *E. simii*, Pinoy, 1911, Chalmers and I created the genus *Pinoyella*.

EPIDERMOPHYTON CRURIS, CASTELLANI, 1905.

Synonyms.—*Trichophyton cruris*, Castellani, 1905; *epidermophyton inguinalis*, Sabouraud, 1907; *T. castellani*, Brooke, 1908.

Found first in cases of *dhobie itch* (*tinea cruris*) in Ceylon by me, and later in France by Sabouraud. The fungus is very abundant in recent cases, extremely scarce in old ones. The mycelial tubes in recent cases are generally straight, have often a double contour, and the segments are somewhat rectangular, their breadth being $3\frac{1}{2}$ to $4\frac{1}{2}$ microns. Branching is not rare. The spores are rather large (4 to 7), roundish, and have generally a double contour; they do not collect in clusters. In chronic cases degeneration forms of the fungus are met with; the mycelium may be banana-shaped, may show several constrictions, or long strings of ovoid elements may be seen. This epidermophyton grows well, but rather slowly, on glucose agar and maltose agar. The growth begins to be visible after four to eight days, the colonies being at first of a peculiar yellow color, lemon yellowish or orange yellowish, occasionally with a greenish tinge. Later they become white with pulverulent surface, and may be acuminate or crateriform. Pleomorphism, with abundant white duvet, develops quickly. Attempts at reproducing the eruption in man by inoculating pure cultures have generally failed, but De Silva and others have recently succeeded in reproducing the disease.

EPIDERMOPHYTON PERNETI, CASTELLANI, 1907.

This fungus has been described by Pernet in a case of *tinea corporis*. It differs from *E. cruris* by growing much more rapidly on Sabouraud's agar, and by the cultures having a delicate pinkish color, which is generally lost in subcultures. It is a very rare fungus.

EPIDERMOPHYTON RUBRUM, CASTELLANI, 1909.

Synonym. *Trichophyton purpureum*, Bang, 1910.—This fungus was described by me in Ceylon in 1909, and by Bang in France in 1910. On maltose agar the growth begins to appear four or six days after inoculation as a raised red spot, which gradually enlarged. At complete development the growth is of a deep red color, either with a central knob or crateriform, and is partly covered with a white, delicate duvet. In old cultures the

white duvet is much more abundant and thicker, and may hide the red pigmentation almost completely. On glucose agar (4 per cent), which is the best medium for this fungus, the growth is of a very deep blood-red color, and the red pigmentation may spread to portions of the medium itself. In old cultures abundant white, occasionally white-greenish duvet is present. This may hide the pigmentations, but on scraping out the duvet the pigmentation will be found to be still well marked in most cases. On ordinary agar and glycerine agar the fungus grows fairly well, but there is no red pigmentation.

TRICHOPHYTON.

Very occasionally fungi of the genus *Trichophyton* Malmsten, 1845, may be found. A few botanical remarks may not be out of place. I follow the classification introduced by Chalmers and myself (see "Manual of Tropical Medicine," 3rd edition, p. 986).

GENUS TRICHOPHYTON MALMSTEN, 1845 (*Sensu Stricto*).

Definition.—Trichophytoneae with mycelial filaments and spores present in the lesion and conidial-bearing hyphae in cultures, only attacking hairs and entirely of human origin. Hardly ever pyogenic.

Type Species.—*Trichophyton tonsurans* Malmsten.

GENERAL CONSIDERATIONS.

During their parasitic life the species of the genus *trichophyton* vegetate according to two types: (1) mycelial filaments; (2) mycelial spores. The mycelial filaments consist of long cylindrical cells, separated by septa. The so-called mycelial spores are simply a modification of the mycelial filaments, due to the septa being much closer, so that the cells limited by them are almost as broad as they are long. The term "mycelial spores" is incorrect, as they are not organs of reproduction, but only vegetative organs. When the shape of these mycelial spores or sporulating mycelia is roundish or oval, the filament takes a moniliform appearance. Moreover, these cells are easily dissociated. Such a type is called "fragile mycelium." To this type belongs, for instance, *Trichophyton sabouraudi*, R. Blanchard. When the mycelial spores are square, the filaments straight, and its articles long, the mycelium is called "resistant." This type is observed, for example, in *Trichophyton tonsurans*, Malmsten.

Pleomorphism.—Cultures on maltose and other sugar agar of all trichophytions, with the single exception of *T. sabouraudi*, becoming old, lose their

characteristics and become covered with abundant white duvet. In these cultures, which can be considered generate, and are generally called "pleomorphic," organs of fructification are usually absent. By transplanting these cultures the same pleomorphic, downy type of growth will be obtained; never again will the growth show the characteristics of the original young cultures directly obtained from the lesions. It is impossible to return to the original type, even by animal inoculation. To prevent pleomorphism, Sabouraud advises the following medium:

Agar	1.8 grammes
Peptone Chassaing	3 to 5 grammes
Water	100 c.c.

On this medium the growth of the various trichophyton is much less abundant than on sugar media, but the cultures are fairly characteristic, and do not become pleomorphic.

EXPERIMENTAL INOCULATIONS.

Certain trichophytions can easily be inoculated experimentally into man, and into many of the laboratory animals—guinea-pigs, rabbits, etc. Sabouraud advises the inoculation of portions of the cultures to be made into a small fictena, artificially induced by burning, such as by applying to the skin a lighted match. The intravenous injection may induce generalized lesions of the internal organs. The intraperitoneal injection as done by Citron may induce a type of peritoneal pseudo-tuberculosis.

MODE OF INFECTION.

With regard to fungi of the genus *Trichophyton*, *sensu stricto*, infection takes place from man to man. According to many authorities, there is little doubt that trichophytions may live saprophytically in nature; this explains sporadic cases of trichophytosis in man.

REPRODUCTION.

This takes place by:

1. Lateral and terminal conidia, supported by short sterigmata.
2. Chlamydospores; these are rare.
3. Large terminal septate and unseptate spindles or macroconidia.

CLASSIFICATION.

The principal species of the genus *Trichophyton sensu stricto* arranged chronologically are:

1. *T. tonsurans*, Malmsten, 1845.
2. *T. sabouraudi*, R. Blanchard, 1895.
3. *T. violaceum*, Bodin, 1902.
4. *T. sulphureum*, C. Fox, 1908.
5. *T. glabrum*, Sabouraud, 1909.

6. *T. fumatum*, Sabouraud, 1909.
7. *T. effractum*, Sabouraud, 1909.
8. *T. circonvolutum*, Sabouraud, 1909.
9. *T. regulare*, Sabouraud, 1909.
10. *T. umbilicatum*, Sabouraud, 1909.
11. *T. exsiccatum*, Uriburu, 1909.
12. *T. polygonum*, Uriburu, 1909.
13. *T. soudanese*, Joyeux, 1912.
14. *T. decalvans*, Castellani, 1913.
15. *T. currii*, Chalmers and Marshall, 1914.
16. *T. louisianicum* Castellani 1926.

These may be recognized as follows:

A. Condition of mycelium in hair not definitely stated, but probably that of the crateriform subdivision.

1. In cultures very convoluted—*Circonvolutum*.

B. Condition of mycelium in hair definitely stated.

I. Mycelium in hair resistant to caustic potash, segments characteristically quadrangular in shape, with double contour, 4 to 6 microns in breadth, arranged in fairly straight ladder-like rows—*Crateriform subdivision*.

(a) *Cultures colored and with craters*—*Tonsurans* group.

2. Yellow in centre, white at periphery—*Tonsurans*.

3. As "*Tonsurans*," but when old, cracked, and dry—*Effractum*.

4. Orange-red centre, remainder sulphur colored—*Sulphureum*.

5. Golden-yellow convoluted centre, becoming crateriform later—*Soudanese*.

6. When old of a yellowish-brown color—*Fumatum*.

(b) *Cultures white with craters*—*Umbilicatum* group.

7. Deeply umbilicated with aureola—*Umbilicatum*.

8. Slow growth, surface cracked, with dry appearance—*Exsiccatum*.

9. Growth at first roundish and then polygonal—*Polygonum*.

(c) *Cultures white with knob-like centre*—*Currii* group.

10. Does not form duvet—*Currii*.

II. Mycelium in hair not resistant to caustic potash; segments rounded, 4.7 microns in diame-

ter, not arranged as a rule in rows, but if a row is visible it resembles a string of beads and not a ladder—*Acuminate subdivision*.

(a) *Without acuminate centre*—*Violaceum* group.

11. Primary growth violet:

(i) Ordinary amount of sealing on the head—*Violaceum*.

(ii) Enormous numbers of scales, followed usually by permanent baldness—*Decalvans*.

12. Primary growth white—*Glabrum*.

(b) *With acuminate centre*—*Sabouraudi* group.

13. Without duvet when old—*Sabouraudi* group.

14. With duvet when old—*Pilosum*.

With regard to *T. louisianicum* the cultures somewhat resemble those of *T. sulphureum* but there are no craters, and the yellow color is much more delicate.

Genus Neotrichophyton, Castellani and Chalmers, 1918.

Definition.—Trichophytoneae with mycelium and spores present in the lesions and conidial-bearing hyphae in cultures; attack hairs, but with mycelial spores and filaments outside the hair shaft.

Type Species—*Neotrichophyton flavum*, Bodin, 1902.

Classification.—There are only two species which may be distinguished as follows:

1. Cultures cerebriform—*Flavum*.

2. Cultures crateriform and creased—*Plicatile*.

Genus Ectotrichophyton, Castellani and Chalmers, 1918.

Definition.—Trichophytoneae with mycelium and spores present in the lesions, and conidial-bearing hyphae in cultures; attacks hairs and hair follicles, growing in on the surface of the hairs; often pyogenic and of animal origin.

Type Species.—*Ectotrichophyton mentagrophytes*, Robin, 1853.

Classification.—The genus is capable of division into three subgenera by the following characters:

L. Ectotrichophyton.—With small spores about 3 to 4 microns in diameter, forming a sheath outside the hair shaft, on dissociation of which they are seen to form chains; with sinuous and quad-

angular hyphal segments, together with spores of varying diameter and air bubbles, inside the hair shaft; with cultures easily obtainable, of rapid growth, and of considerable vitality, characterized by plaster-like or floury centres surrounded by a fringe, when grown on Sabouraud's proof media and by successful inoculations into animals—Subgenus *Microtrichophyton*.

2. *Ectotrichophyton*.—With large spores about 5 to 7 microns in diameter, forming a sheath outside the hair shaft, on dissociation of which they are seen to form chains, and with sinuous hyphal segments, together with large-sized spores and air-bubbles, inside the hair shaft; with cultures easily obtainable, of slow growth in temperate climates, though much more rapid in tropical climates, characterized by their tendency to resemble (at all events when old) those of the *Achorion*, and capable of being inoculated into animals:

(a) With early formation of duvet—Subgenus *Ectotrichophyton*.

(b) Culture sooner or later resembles that of *Achorion schoenleini*—Subgenus *favotrichophyton*.

Ectotrichophyton (Favotrichophyton), Castellani and Chalmers, 1918.

Definition.—*Ectotrichophyton* with the characters given above for *favotrichophyton*.

Type Species.—*Ectotrichophyton discoides*, Sabouraud, 1909.

Classification.—The *Favotrichophyton* species which are known are:

E. verrucosum, Bodin, 1902.

E. ochraceum, Sabouraud, 1909.

E. album, Sabouraud, 1909.

E. discoides, Sabouraud, 1909.

E. luxurians, Brault and Viguié, 1914.

These may be differentiated as follows:

A. Condition of mycelium in hair not definitely stated:

I. Young cultures white in color, and soon resembling those of *Achorion schoenleini*, but sunk into the medium—*Album*.

B. Condition of mycelium in hair that of an ecto-endothrix:

II. Cultures grey in color, humid, with verrucose surface—*Verrucosum*.

III. Young cultures of a yellow-ochre color—*Ochraceum*.

IV. Cultures yellowish-brown or greyish-yellow, cupola-shaped, humid, with usually smooth surfaces, and not resembling the *Achorion* cultures until old—*Discoides*.

V. Very rapid development—*Luxurians*.

Ectotrichophyton (Microtrichophyton), Castellani and Chalmers, 1918.

Definition.—*Ectotrichophyton* with small spores 3 to 4 microns in diameter.

Type Species.—*Ectotrichophyton (Microtrichophyton) mentagrophytes*, Robin, 1853.

Classification.—The following species are known.

E. mentagrophytes, Ch. Robin, 1853.

E. felineum, R. Blanchard, 1895.

E. granulosum, Sabouraud, 1908.

E. farinulentum, Sabouraud, 1910.

E. persicolor, Sabouraud, 1910.

E. lacticolor, Sabouraud, 1910.

E. radiolatum, Sabouraud, 1910.

E. denticulatum, Sabouraud, 1910.

These may be differentiated as follows:

A. Grows best on agar with sugars—*Persicolor*.

B. Grows best on agar with sugars:

I. Growth white, elevated centre, powdery surface, radiating furrows.

(a) Furrows well marked. Pure white—*Mentagrophytes*.

(b) Furrows poorly marked. Not so white—*Radiolatum*.

II. Growth white, discoid, umbilicated, but later knob in centre; white, powdery surface, radiating furrows—*Farinulentum*.

III. Growth white, yellowish, dotted with granular projections—*Granulosum*.

IV.—Growth cream white to yellowish, not granular—*Lacticolor*.

V. Growth white, with umbilicated centre, with numerous radiating projections at periphery.

(a) Projections well marked—*Felineum*.

(b) Projections poorly marked—*Denticulatum*.

Genus Atrichophyton, Castellani and Chalmers, 1918.

Definition.—*Trichophytoneae* with mycelium and spores present in the lesions and conidia on short stalks, but they do not attack hairs.

Type Species.—*Atrichophyton albiscicans*, Nieuwenhuis, 1907.

Classification.—The following will indicate the characters of the species:

A. *Has been cultivated:*

I. Culture with powdery surface—*Albiscicans*.

II. Culture brownish mass with deep furrows—*Macfadyeni*.

III. Cultures pinkish with violet tinge—*Viannai*.

B. *Has not been cultivated:*

I. Spores are numerous and of various sizes—*Blanchardi*.

II. Spores are few and about 4 microns in diameter—*Ceylonense*.

YEAST-LIKE FUNGI

In some cases of pruritus ani I have found fungi of the genus *monilia* Persoon and other yeast-like organisms (*saccharomyces*, *cryptococcus*, etc.) either alone or together with *Epidermophyton*, but I doubt whether they play an important part in the causation of the pruritus; they probably play the role of secondary invaders, similar to the role played by certain bacteria, such as *streptococcus*.

In other publications I have given a botanical classification of yeast-like fungi (see also "Manual of Tropical Medicine," by Castellani and Chalmers, third edition, chapters on fungi), but I will limit myself here to mention a very simple scheme of classification which may be used by clinicians for practical purposes. In this scheme the two principal features to which importance is given are:

1. Presence or absence of mycelium.
2. Presence or absence of ascospores.

Yeast-like
Fungi

Mycelium absent.

Mycelium present (at times in a very small amount).

Ascospores absent: *Cryptococcus sensu lato*.

Ascospores present: *Saccharomyces sensu lato*.

Ascospores absent: *Monilia sensu lato*.

Ascospores present: *Endomyces sensu lato*.



Yeast-like organism

BACTERIA.

Bacteria are usually present, and coli-like organisms, *proteus*, various cocci, including several kinds of streptococci have been found. They may, and probably do, play a part in the causation of the secondary eczematous dermatitis, but I doubt whether they alone can produce severe pruritus. A case of so-called streptococcus pruritus sent to me in London turned out to be a case of *epidermophyton* infection, due to *epidermophyton cruris*. The streptococcus was abundantly present, but was not the actual cause of the pruritus, as streptococcus vaccine caused no improvement whatever in the local condition, while an antimycotic treatment with sulphur and salicylic acid cured it.

DIAGNOSIS.

A definite diagnosis of mycotic pruritus ani can not be made without *epidermophyton* or *trichophyton* fungi being found mi-

microscopically or by mycological cultural methods; a diagnosis of probability can often be made, however, on clinical grounds, the minute, red infiltrated patches, fairly often seen on careful examination in the ano-perianal region being suggestive, especially if the patient is suffering from mycotic dermatitis of the toes, or gives a history of having suffered from dhobie itch or tinea cruris in the past. When the bacterial flora is very abundant it may be extremely difficult or impossible to isolate the fungi.

COURSE AND PROGNOSIS.

The course of the condition is chronic, but periods of great improvement and apparent cure may alternate with periods of severe recrudescence. Attention should be called to certain cases, fortunately rare, in which although the fungus under appropriate treatment has completely disappeared, the pruritus still continues. This is observed in highly strung, very nervous individuals. Very difficult cases are also patients suffering from, or having a tendency to, true eczema; when they become infected with epidermophyton fungi—either the irritation caused by the fungi themselves or set up by the treatment to eradicate the condition—they may develop an attack of eczema not only in the ano-perianal region but in many other regions of the body.

TREATMENT.

In uncomplicated cases an ointment I have found very efficacious is the following: sulphur praec. gr. 30, acid salicyl. gr. 30, vaseline 3i—the ointment I introduced some years for the treatment of ordinary tinea cruris. A preparation which frequently answers remarkably well is Deek's ointment, which consists of salicylic acid 4 parts, bismuth subnitrate 10 parts, mercury salicylate 4 parts, oil of eucalyptus 4 parts, vaseline and lanolin sufficient to make up to 100 parts. It is interesting to note that long ago Deeks found that this antimycotic ointment had a very beneficial action in many cases of pruritus ani, al-

though the existence of a mycotic type of the condition was not known at the time. A slightly modified Whitfield's ointment is also useful: carbolic acid 5 gr., salicylic acid 15 to 30 gr., acid benz. 15 to 30 gr., vaseline 1 oz. In several cases I have found the following ointment most useful: Ung. picis 3i, zinc oxide 40 gr., ung. ac. salicylic 4 drachms, lanolin ad 1 oz.

In certain cases an ointment containing 2 gr. of chrysarobin to the ounce of vaseline is efficacious, but it may occasionally induce a severe reaction, and it stains, of course, the underclothing. It should not be used when there is any affection of the kidneys, and the patient should be told never to touch his face or eyes after applying the ointment.

Diluted tincture of iodine is at times useful, as well as collosol iodine oil. A strong lotion of potassium permanganate (15 gr. to 1 dr. to distilled water 1 ounce) is occasionally useful, also the frequent swabbing of the ano-perianal region with a perchloride of mercury lotion (1 to 1,000) or resorcin lotion (1 to 5 per cent).

When the pruritus is unbearable, painting the parts with a lotion consisting of arg. nitr. 15 gr., spir. aether nitr. 1 oz., at times stops the itching, either immediately or after a short period of time, during which the pruritus may become intensified; this paint should be used with care. In very chronic cases X-ray treatment is to be recommended; it is often successful, though, unfortunately, not always.

MYCOTIC PRURITUS VULVAE.

This condition is very similar to pruritus ani of mycotic origin, and it is not rare to observe female patients suffering from both conditions.

AETIOLOGY.

Mycotic pruritus vulvae is caused by the presence of fungi of the genus epidermophyton, occasionally of the genus trichophyton, which remain dormant in the external region of the labia majora without giving rise to the ordinary signs of active

tinea cruris or dhobie itch. Not rarely yeast-like fungi, usually of the genus monilia, but occasionally belonging to the genera cryptococcus, saccharomyces, endomyces, may also be found—the fungi of the vaginal as well as oral thrush, but in my experience it is rather doubtful whether they can alone give rise to severe pruritus, as under an appropriate treatment monilias may be made to disappear, but the pruritus usually persists. Monilias probably play the role of secondary invaders similarly to the many bacteria so often found in the condition, among which are various cocci and coli organisms.

CLINICAL SYMPTOMS.

The patient complains of very severe pruritis, in most cases at intervals. The examination of the genital parts may reveal nothing at all, but at times a few minute, red, hardly raised infiltrated patches may be seen. In long-standing cases an eczematous moist or dry dermatitis often develops, due to secondary bacterial invasion. In chronic cases there is often a large amount of vaginal discharge, in which various bacteria are found and fairly frequently monilia fungi.

ILLUSTRATIVE CASE.

An elderly spinster consulted me some time ago for vaginal pruritus of some years' duration, which had been treated by different medical men in various ways without any distinct amelioration resulting. In the perianal region, on the perineum and on the labia majora, a very few small reddish patches were seen, which it was thought, might be due to scratching. There was an abundant purulent vaginal discharge, and also purulent discharge from the anus, with symptoms of proctitis. A complete mycological and bacterial investigation was carried out. From the scrapings of the perianal region and the labia majora a fungus was grown with the characters of *Epidermophyton cruris*, Castellani, 1905, the fungus which is the commonest cause of dhobie itch and pruritus interdigitalis pedum. In the vaginal and in the rectal discharge enormous numbers of monilias were present, with very few bacilli; cultivation showed the fungus to be a strain of *Monilia pinoyi*, Castellani.

The following treatment was given: Creosote was administered by the mouth; tinc. iod., which in this case did not give rise to any local pain

or irritation, was freely applied once a day to the anoperianal region, the perineum and the external surface of the labia majora. For the first three days hot alkaline irrigations (1 dr. of bicarbonate of soda to a pint of water) were given; afterwards, twice a day, an iodine irrigation (tinct. iodi. 1 dr., a2. ad Oij). Within two weeks the lady was completely free from the anal and vaginal pruritus; the purulent rectal discharges decreased, but did not quite disappear. The monilias present diminished enormously in number, but did not disappear completely.

PROGNOSIS.

The condition has no tendency to spontaneous cure, but periods of great improvement and even complete cessation of the pruritus may be noted.

TREATMENT.

This is on the same lines as for mycotic pruritus ani. In uncomplicated cases my salicylic sulphur ointment (acid salicyl. 30 gr., sulphur gr. 30, vaseline 3i) or Deek's ointment half strength, or a modified Whitfield ointment answers well, or painting with diluted tinct. iodine. When an acute eczematous dermatitis, generally due to vaginal discharge, is present, local applications with lotio plumbi (liquor plumbi sub. 1 dr. to the pint), liquor carbonis detergens (2 dr. to the pint), are useful, and vaginal douching with iodine (tr. iodine 1 dr. to two pints), or potassium permanganate (1 in 5,000) should be carried out. Later tar ointments or pastes, such as liq. picis. min. 10-20, zinci ox. 2 dr., vasl. ad. 1 oz., are useful. X-ray treatment is at times very useful.

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ACUTE OTITIS;*

ITS IMPORTANCE AND EARLY TREATMENT.

GEORGE R. BERIDON, M. D.,

OPELOUSAS, LA.

The term acute otitis in the usage of our everyday practice is usually limited to those inflammations or suppurative affections of the external and middle ear; the affections of the inner ear being referred to more specifically as labyrinthitis.

It is not my intention to dwell at all upon the latter, but to devote a few minutes of my allotted time on the former affections, particularly as they apply to the very young.

When we take time to consider the statistics of some authorities who make the significant statement that from 80 to 90 per cent. of all cases of partial or progressive deafness come within the ambit of one of the possible complications of sequellae of an early acute otitis, particularly otitis media, we have forcibly impressed upon us the grave realization that our common ear-ache of childhood is one presenting grave economic and social problems for the youngster in his later life.

Otitis external usually takes two forms, the circumscribed or diffused. Neither is dangerous to life and fortunately gives rise to sufficient pain to cause the patient to seek relief at the hands of the physician, which means that these cases are usually discharged without any of the possible complications, as perichondritis or bone necrosis, with the possibility of an occluded meatus.

The anatomy of our middle ear, with its delicate and complicated hearing mechanism, is such that any acute inflammatory process within it constitutes a menace to the function of hearing.

If the middle ear were a cavity constructed of an antrum, one would expect an

inflammatory infection of its lining to be self-limited, and ending in nothing more than an empyema, where a simple drainage would result in a cure. But instead of such an easy and favorable termination, it may become a menace to one's life by the possibilities of its extension to the cranial cavity through the labyrinth, or by the mastoid antrum and air cells to the meninges and lateral sinus. Some of these complications happen so very often that no effort should be spared in combatting the earliest manifestations of the disease in an effort to cut short the attack. Unfortunately, in the very young it is impossible to do so in all cases, on account of no manifestation of the disease showing itself. The elasticity of the drums of these youngsters allows it to stretch to such an extent that even the accumulation of a large quantity of pus behind it does not seem to give rise to pain. Spontaneous rupture takes place, and for the first time attention is called to the ear. Very often a youngster's prolonged fever would be cut short if the stethoscope would share some of its time with the ear speculum at the hands of the attending physician. This is especially true in our exanthematous fevers and influenza. This was never so forcibly impressed upon me as within the past few weeks, when within a period of twelve days I saw two cases of acute mastoiditis in infants, in which at no time were there sufficient ear symptoms to call attention to a possible otitis media as the cause of their obscure fever. If this be true, when we have pus in the middle ear, just imagine how often we must let slip by us the acute stage of a catarrhal otitis media on account of its being a milder inflammatory condition. The adults will report to you when suffering with the condition, even if they complain of only a stuffiness in the ear, or a "funny feeling" at the lower angle of the jaw, but the only manifestation the child may show is indifference when spoken to, or by asking you to repeat what you said or asked of him. Do not accuse these little ones of being careless, stupid or

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curious, but investigate their ears, even if they tell you that they feel no pain and hear well. Look into the ear of the baby who tosses its little head during its sleep, and instead of referring as "cute" to the little one that brings its hands to its ears look for possible trouble in that ear.

The question arises as to what the otologist is to do for these cases if they are so prone to exist without being manifest enough for the bedside attendant to notice them. The thing to do is to look for the condition in all obscure fevers, and not wait for it to look for us, and never to discharge a patient having had any of the exanthematous fevers, as well, unless a competent otologist has made an examination of the ears and found them unaffected.

The day, it seems, has not yet arrived when our schools generally will have routine examinations by men competent to put the children through hearing tests. Only a routine examination of the ears in all children will enable us to get at the early treatment of middle ear disease, so as to prevent the deafness which follows later. Another great step is in the giving of more serious consideration to the child with the "running nose." Our naso-pharynx is constantly harboring virulent micro-organisms, which are taken care of until, at some time, the patient's resistance is lowered when he catches a cold in the head. Whenever there is a congestive process in the region of the nose or naso-pharynx, such as an acute coryza, there is the almost certain chance of the infection getting into the eustachian tube and there cause inflammatory changes of the delicate mucosa of the middle ear, and unless proper remedial attention be given these, we are not treating our middle ear cases properly. The infection of the middle ear is more common in children than in adults, due to their being more susceptible to inflammatory condition of the nose and throat, and because again, the anatomical condition of the tube is such, in children, that micro-organisms more easily

enter into it. Due to this larger opening of the eustachian tube in children, it is an easy matter for them to blow into it secretions and infectious matter by the improper blowing of their nose.

At the onset the treatment must be directed towards the causative factors. As most of these cases are associated with some process within the nose and throat, this must receive proper attention. It is a wise axiom to follow that once an acute otitis has shown itself in the ears, any abnormality in the nose and throat should be corrected. The treatment of the naso-pharynx during the acute stage will consist, mainly, in the cleansing of the mucosa of this region, and the application of astringents. Liberal spraying of the nose and naso-pharynx with any of the milk warm alkaline solutions, such as sodium bicarbonate, will suffice to clean them. Follow this with a spray of a 10% solution of argyrol or some other silver salt.

A hot water bag to the ear will usually afford considerable relief of the pain present. A warm douche of a solution of about a teaspoonful of table salt or sodium bicarbonate to a quart of warm water will not only keep the ear canal clean, but afford marked relief of the pain, due to the heat. If it is necessary to use any analgesic drops for the pain, I know of nothing better than a few warm drops of equal parts of 1-5000 adrenalin chloride and a ten per cent solution of cocaine. This not only relieves the local congestion, but the cocaine has a direct anesthetic action on the sensory nerve endings. Do not use any drops with a thick oily base as olive oil, as they only gum up the ear and are hard to remove when you wish to make an examination of the drum. The drum should be carefully inspected daily, after the warm saline or alkaline douche during the entire course of the acute process. When these have subsided, one should attempt to test the hearing of the child, and if it is found impaired, some means must be found to bring it back

to normal. Politization in a young child is practically impossible, but we can have recourse to massage, externally, and with patience and perseverance we get results which will forestall endless troubles later on.

Of course, in the treatment of these cases as soon as there is sufficient evidence that there is a formation of pus within the middle ear cavity, an immediate evacuation of this pus is necessary. I personally do not wait until I have marked bulging of the ear-drum before performing a paracentesis. You can do no harm if you cut from high up posteriorly sweeping downward and forward. Such an incision can be made to equal two-thirds of the circumference of the drum without any danger. On the other hand, temporizing may enable changes to take place, which will be permanent and make the prognosis more grave. After making the incision I believe in keeping the canal clean by repeated douching even if it is contrary to the teachings of some men today. If the discharge is profuse and persists for more than four or five days, we can usually check same by the use of drops of about two grains of boracic acid to the dram of alcohol placed into the ear canal after the douching, and allowing it to remain in it for five or ten minutes.

After our acute symptoms disappear and our patient feels comfortable, our treatment is only accomplished, and only by looking for and correcting pre-disposing etiological factors in the nose and throat do we perform our full duty. The importance that tonsils and adenoids play in an acute infection in the ear are getting to be so universally recognized today that no hesitation should exist as to their removal. They always cause trouble if they are diseased, or if they interfere in any way with the action of the eustachian tube. I think it a good rule to remove them in all cases as soon as our acute symptoms have been controlled. My experience has been that when the condition is explained to the

parents that they readily consent to have this operation performed.

DISCUSSION.

Dr. Jules E. Dupuy (New Orleans): I shall address my remarks to one phase of the subject, acute otitis media in infancy, because the infants are the most typical problem. I agree with the essayist when he tells you not to put oily solutions in the ear canal for the relief of the trouble in the middle ear, but I go him one further, because he admits that he could advise the use of cocain and menthol and carbolic acid.

Now if the trouble is in the middle ear and begins in the nasal pharynx and nose, what is the result of putting stuff in the canal? No sense at all in that. Leave the canal alone; treat the condition through the nose and nasal pharynx.

What shall we do for the infant when he first begins to give signs of an earache, pain and tossing around and other subjective symptoms? Treat his nasal pharynx, neosilvol instillations of the nose, argyrol ten per cent and adrenalin ten drops to a teaspoonful of water, which will give you about one to four thousand solution. Use is every three or four hours. Why? Because the most of the pain is the tension in the middle ear, the hyperemia congestion. You can avoid that and sometimes bring the thing down to the first stage and avoid suppuration by the use of adrenalin instillations of the nose every three or four hours because the adrenalin contracts tissue. Opening the eustachian tubes oftentimes kills the patient.

Secondly, I want to refer to a group of infants who have acute otitis media suppurativa but who give you a very indistinct and obscure picture. The pain is so slight that the tossing of the head is not observed. But there is temperature. It is only by elimination of the lungs, kidneys and gastro-intestinal tract that you can finally begin to suspect the middle ear. Remember, no pain. Practically no symptoms but a continuous septic temperature. In the Charity Hospital, over and over again, in helping the pediatricist solve a problem of that kind, it developed that there was trouble in one or both ears.

As to the treatment surgically, what shall we do and where shall we do it? And there again I agree with the essayist about the ice bag on the outside of the ear. I think it is the right thing. It promotes suppuration I think. The ice bag removes the congestion, relieves the pain and possibly helps the mastoid. If in spite of the ice bag, in spite of the argyrol, in spite of the neosilvol, in spite of the nose, the temperature keeps up twenty-four or thirty-six hours, more than thirty-six hours, we should intervene surgically.

The infant has such small amount of brain in the highest sense of the word, it seems to me; his psychology is so low that we can afford to puncture his ear drum without giving an anesthetic at all. One point is very important. If in doubt open both ear drums and be sure. One is never sufficiently expert or so expert in his vision that he can be sure that both ear drums are normal or that only one ear drum is normal. If the canal is small and the vision not so sure as to trouble on one side, if there is the least suspicion about it, open the two sides.

Mr. President, the essayist and I agree on all things, as I said just now, excepting that I will not agree with him as to the placing of cocain and menthol and carbolic acid in the canal for the reason that it might shake up and obscure the view. Again, I think if you will adopt the plan of applying ice bag as we do in appendicitis it will relieve the pain and possibly abort a mastoiditis.

Dr. Rufus Jackson (Baton Rouge): Gentlemen, there is so much that could be said on this subject that I hate to begin it. If I may just take a half a minute I would like to draw a little rough sketch (drew the sketch on the blackboard). Call that your middle ear cavity, roughly. Right up here is your opening into your antrum. My word to you would be to consider every affection of the middle ear a potential mastoid infection and in the child when the antrum and mastoid is infected practically the whole mastoid is infected. It is almost impossible to conceive of an infection in this middle ear not infecting the mastoid antrum.

Don't depend entirely on the fever, you general practitioners. This is not a critical attitude; it is an appeal for co-operation, for liason, when you are in doubt. When your child, no matter if it hasn't any temperature elevation but has spent a fairly good night, if it continues to be restless and doesn't seem to sleep just exactly right, you have that ear examined. Not long since I did a mastoid on a child just like that. They don't have fever nowadays. It isn't getting to be the popular thing. If there is fever, as a rule it is a mixed infection. Don't depend entirely upon pain either.

Gentlemen, I am not going to disagree with anybody. I am going to tell my experience. You nose and throat men have been using ten per cent argyrol. A good many of you nose and throat men tell them to put in one, two or three drops of argyrol. Some of these days a good mother will get energetic and put in half a dropperful and you are going to get a reaction that it will take you several days to combat and you are going to get a reaction in the eustachian tubes that will put you in a worse condition than ever.

You can put ten per cent argyrol in your nose. That is enough. I say to use five (5) per cent argyrol, gentlemen, and let them put it in freely. Then you won't get a reaction. Don't say four or five drops. Estimate what ten drops will be in the dropper and shoot it in and then turn the baby over and let him spit it out.

In treating your canal you have done exactly right in telling them not to put the oil in. Tell them to do something that is going to prepare this canal for your future procedure. Use what you may. Personally, I prefer five per cent carbolized glycerine because it mixes with the anesthetic and every time I give that to a mother I say, "Remember this will not cure your baby's ear condition. This is only a solution which will help to relieve the pain." As a matter of fact, you ask why I give this. Dr. Dupuy said, why treat the external canal. I am going to tell him why I do that: Because the mental condition, the psychology of our people of today is not sufficiently developed to realize that they can leave off the external canal treatment. Some neighbor woman would come in and tell them what to put in there, if you prescribed nothing.

Dr. J. M. Mosely (Shreveport): I wish to bring to the attention of the general practitioner the importance of early recognizing these cases for often they will go on to suppuration in a very short time. If you have a case of earache in a child don't pass it up lightly thinking as it has just started there is not reason to be alarmed, for occasionally you may be surprised how quickly these cases go on to suppuration requiring the drum to be opened or it ruptures spontaneously. I think that Dr. Dupuy has outlined a good treatment for this condition of the middle ear. The adrenalin will produce an ischemia of the mucus membrane and then with some antiseptic such as argyrol applied to the naso-pharynx by dropping it through the nose if the child is not relieved instead of putting a lot of "stuff" in the external auditory canal, give the child a dose of aspirin and Dover's powder.

If the patient comes from under the influence of these drugs and still has pain it would be much safer to have some specialist see the case.

Dr. E. V. Whitaker (Baton Rouge): In the treatment of the external canal, I have found that there are two schools of thought along that line. Twelve years ago Dr. Joe Aiken gave me a prescription for otitis media which was: iodized phenol minus eight and glycerine grams three, five drops in the ear every two hours, with the patient lying on the opposite side from ten to fifteen minutes timed by the clock.

I certainly don't believe in putting oily stuff in the ear. If you are going to put anything in the ear at all, use something that will wash out very easily, and iodized phenol will.

Some of the hospitals won't touch the external canal. Some do put the iodized phenol in. But bear this thought in mind, that if you can possibly use any adjunct treatment to break up a middle ear infection to avoid opening the ear drum you lessen the danger of chronic otalgia, that only an ear drum that has been perforated by surgery or by itself is going to be susceptible to a chronic otalgia. If the drum is not perforated, there is no danger.

The logical thing is just as the paper brought out, treat the seat of the trouble, through the nasal pharynx, and that is the way to treat it. Personally, I believe there is food for thought on both sides. One side takes the idea that you must never put anything in the external auditory canal and some use a mild antiseptic.

Dr. S. M. Blackshear (New Orleans): Gentlemen: I am sorry I did not get here in time to hear the paper having just left a meeting of the House of Delegates. You seem to be discussing earache with its causes and treatment.

I would like to say that during the recent epidemic of influenza we had a great deal of earache. Frequently the doctor is not called until there is an otitis media and then there is nothing to do but to open the drum. It has been our experience that in the majority of cases this can be done under local anesthesia using a solution of equal parts cocaine, menthol and carbolic acid, thirty-three and a third per cent each. This solution is instilled into the auditory canal and allowed to remain for fifteen or twenty minutes when the anesthesia is usually quite complete. When the drum membrane is thoroughly incised, the incision being made long enough, as a rule the earache is relieved and the abscess drains and heals from the inside and it is not necessary to reopen it. However, in some cases, it becomes necessary to incise more than once.

Recently there has been a tympanotomy knife (Denfacour's) on the market which is constructed in the shape of a coffee or rice sampler, *i. e.*, it is v-shaped and leaves a flap when the drum is opened long enough to allow for free drainage. This knife has proven practicable especially in dealing with otitis media in children since it is only necessary to stab the drum with this knife in order to get free drainage.

At times we are called in at the beginning of an earache and on examining the drum we find it

retracted and red, especially in its upper portion (Schrapnal's area) when of course incision is unnecessary. In this condition the use of long pledgets of cotton saturated with a one per cent cocaine and three per cent antipyrine solution in the nose, placed in a manner so that the end of the pledget comes in contact with the mouth of the eustachian tube thereby correcting the congestion and deficient ventilation of the middle ear and relieving the earache. The application of nitrate of silver solution six per cent to the naso-pharynx is of great assistance in clearing up this condition and preventing otitis media. As for the use of drops in the external auditory canal for the relief of pain, it has been our experience that when ten per cent carbolyzed glycerine does not give relief, it is necessary to incise the drum.

Dr. R. B. Leavell (Bastrop): Of course, gentlemen, as a general practitioner the thing I want to say is to just emphasize its importance. A few years ago I heard a specialist on diseases of the eye, ear, nose and throat, read a paper and he made this assertion: that he had quite often seen green stools clear up by opening a drum. Well you know I thought he was a fanatic absolutely. But to emphasize what Dr. Jackson has said, I have seen green stools clear up when a paracentesis is done, and I have seen diarrhea clear up from opening the ear drum since that time.

So, quite often, when we have an irritable child that has been ill with something and we don't know what it is, if we will examine that ear we may find the trouble. I believe, while I have done this work myself, if you find an ear that has not that pearly, glistening look associated with a normal condition, any variation from that justifies a paracentesis, and you don't always have to find pus either to get your relief. Quite often they will just bleed a little bit in the beginning and that will relieve the child and maybe pus will come the next day.

Dr. Beridon (in closing): Mr. Chairman, I want to thank the men here for having so liberally discussed the paper. I would like to answer all of them. Some of them don't call for any answers except one point that Dr. Dupuy brought out, that is, when you are in doubt which ear to open, open both. I think Dr. Dupuy will bear me out in the statement that it is extremely seldom that you have an otitis in one ear alone without any inflammation whatever in the other ear. If we look upon an otitis media as caused by a naso-pharyngeal trouble, you will see that it is practically impossible for this inflammation to limit itself to one side of your naso-pharynx, so you can expect some trouble in your other ear, sometimes together and sometimes very often when you have

cleared one case the patient comes back with a condition on the other side.

Considering an otitis media as a potential mastoid is very true, but I usually give attention to my naso-pharynx even before I have any bulging of the drum, and I feel satisfied that Dr. Jackson will agree that if you perform an early paracentesis, treat your focus of infection, you don't have to worry about your mastoid as the mastoiditis is usually the result of those cases that are not seen early enough or neglected.

DIAGNOSIS.*

W. A. BRYAN, M. D.,

NASHVILLE, TENN.

The mastery of diagnosis means more to the patient and requires more of the doctor than any other detail in the practice of medicine. It is easy to understand how this might be disputed by the layman and certain professional men whose minds have long been fixed within too narrow limits; easy to understand how both of these would consider treatment as of prime importance. The patient is ill; he wants to be well; he considers that he gets well by treatment; therefore treatment to him stands first. The doctor whose practice is limited, whose view has become more limited, sometimes acquires an unwarranted reliance upon his line of work and too often comes to believe that everybody will be benefitted by his operation or one of his operations, or by his pet treatment. It has been so helpful to so many, is it not reasonable to conclude that the patient in hand would also be helped? Treatment is the goal of medicine, but to be intelligent, scientific and serviceable, it must succeed, and be determined, by diagnosis. Treatment without diagnosis is quackery, sheer and unpardonable experimentation. Grief awaits both the doctor and the patients who have such a conception of the practice of medicine.

Someone will think no such absurd thing as treatment without diagnosis exists. The

deeds of men indicate otherwise. Upon this habit, so prevalent among laymen, the enormous, lucrative business of patent medicine is founded. There can be absolutely no doubt that numbers of patent medicines are well compounded of the very best drugs, which are universally recognized as useful remedies. Then why not use them when we are ill? In the first place those who use them do not know what they contain; the advertisement may be cunning or even crafty; it may tell you it is a perfectly simple home remedy and that you are to compound it yourself, using so much sugar and flour and lemon juice with a teaspoonful of X, which can be had at so-and-so's drug-store around the corner. There's the rub; what is X? Look X up in your dictionary; it is not there; look it up in your medical dictionary; it is not there; go down to the library and search the encyclopedias and it cannot be found. It is not. It is a figment, a name that has no meaning to science, no standing in literature, a lure adopted to entice the unwitting or that feeble-minded host who think the newest is always the best; who think that the oldest under a new, unknown, unknowable, meaningless name has acquired powers it had not before.

This mania for prescription without diagnosis is widespread. How often has each of you been asked if it will be all right to give Mrs. A some of Mrs. B's medicine? How often does somebody who never sent for you or visited your office even once call up your wife and ask her what she thinks ought to be given for indigestion? How often, in Heaven's name? How often do laymen in the club, at church, by the fireside, wherever laymen are gathered together, advise one another to stay away from the doctor and try some remedy that somebody else has been taking for something else, which may feel to John just like Tom said his trouble felt to him. Men love this way of playing with their lives. Sometimes they save a doctor's bill by it. It affords a splendid increase in the income

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of undertakers and occasionally a new car for the widow and children.

Then there is the medicine, patent or prescribed (an old prescription) the contents of which are known, that men and women try to see if maybe it won't help. Treating a condition the nature of which they cannot know. What is the matter with the patient who takes this remedy? Nobody knows. Nobody that has training and education enough to know has been asked to find out. It's a case of "I just thought it might be such and such." The patient knows he doesn't know a thing about disease or medicine. I can prove it; when a child gets sick papa prescribes or mama does; when the bird dog or the Jersey calf gets sick they send for the veterinarian; a psychologic feat difficult to understand, the explanation of which probably rests finally upon the belief that a sick child is less likely to die than a sick animal. So when we use patent medicine we are put into the asinine position of giving a remedy, whose contents and whose effect we do not know, for an unknown disease. It is only fair to those who have yet escaped with their lives from such practices that the doctors should tell the family the plain truth about it and say, "Yes, you killed him." As soon as they find out the facts, all honest people will desist from such unpardonable practices, and all others will be classed as murderers. I am not trying to use figurative language; but am searching soberly for words to speak the truth, trying to emphasize the fact that most people who die before their time nowadays die because competent search for the cause of their trouble has not been made, or because improper treatment has been administered before the cause of trouble has been found.

Diagnosis is the most difficult thing in medicine; it is the philosophy of medicine. By this means great men sit in judgment of the lives and the health of the people. It embraces as its elements all that goes to make a man or a woman or a community.

Geography even enters into it, climate, country, nationality, race. And the nearer things, the individual's personal and family history, his employment, his mode of living, his habits of travel, his personal habits of eating and drinking. Then comes his anatomy, physiology, chemistry, physical state, appearance, locomotion, strength, physical signs, symptoms. The laboratory findings, chemical, pathologic, X-ray, biologic, electrical. Then his idiosyncrasies. When all these have been inquired into, all that the merits of the case in hand warrant, the diagnostician must combine them in such a way as to arrive at a warrantable conclusion, often by patient study of all the evidence, much of which is contradictory, just as in legal cases. Thus and thus only can a diagnosis be made if the case is not from its nature obvious.

Sometimes doctors are called upon to make a complete examination. This has a double meaning, one to the mind of the patient seeking the examination, another to the doctor. The patient wants the diagnosis to be complete enough to know definitely all that is wrong with him, but he thinks a complete examination is complete, which it rarely ever is. There's always some other test that could be made. Literature is full of them. The doctor understands by complete examination exactly what it says. There are good reasons why a complete examination is not done. One very valid one is that the expense would be prohibitive, and the other is that no doctor would have the inclination or perhaps the right to do a lot of tests on a case which from the nature of the known facts could not have a bearing on the disease for which search is made. Nothing is more stimulating or interesting than an honest effort to ferret out the true causes of a patient's illness; nothing is duller than following a cold and fruitless trail just to satisfy the fancy of the patient. Consequently we very commonly hear patients say they have had a complete examination;

and very rarely hear a doctor say he made it complete.

We need to understand what diagnosis must be to carry the weight to which the word entitles it. Ordinarily our patients are satisfied to have us say they have one single thing. I should prefer to be thus satisfied. But one of the most frequent errors made by the profession is failure to recognize all the pathologic conditions in the case in hand. This failure is due to a feeling inherited from our premedical days, that illness is likely to be a single disease, and to the satisfaction we derive from finding an adequate explanation of the complaint; perhaps to a certain indolence and lack of training which retards us from finishing the work in hand. This is all the more readily done, since a diagnosis of one condition is usually entirely satisfactory to the patient. When laymen think of illness they think in terms of single causes. The word diagnosis should not be used as it is; if one says he diagnosed measles, he may be correct; but it is not enough. He should diagnose all that the patient has, and correlate the various things present in such manner as to show the relation a more obscure condition may have had in causing the more patent, and what influence it may still have in determining the treatment and altering the prognosis. A common error is to rest supinely on an accurate diagnosis, and though the patient is seen frequently enough yet to allow some annoying or fatal complication to make advanced progress before it is recognized. It is a terrible thing to think of a doctor who treats a patient for a boil and loses that patient. It must look horrible to the layman. Yet the diagnosis of boils is the simplest thing in surgery. If the diagnosis had gone further, as it should, and found that before the boil was diabetes, or following it was septicemia, the prognosis could then be immediately adjusted to the eventual outcome, and all justification of censure avoided.

This conception of diagnosis requires great effort of the physician, incisive intelligence, superb judgment, vast experience, eternal vigilance. Of the patient it requires willingness to have an intelligent study of his case, patience during the trying, tedious hours or days during which he must remain in doubt, and readiness to pay the price; for it costs money to make a diagnosis. The competent diagnostician often is compelled to spend hours in the study of a difficult case, just as the judge of a court does; he often has also to incur other expenses, sometimes considerable, and to call into consultation experts in other lines. Such are the facts, and it is only by following this course that accuracy in discovery of hidden maladies may be attained. It is less an art than it is profound knowledge, horse-sense, and hard work. The men who could look at your tongue or ask you a couple of questions and instantly submit the most profound diagnosis and prescribe infallibly for it are all dead—I had almost said "Thank God." They remind one of those who can from a drop of blood read the secrets of sex, of pathology, of diagnosis, of prognosis, and all the indications of extensive treatment. There is no place in the enormous mass of medical information for such instant genius.

It has already been stated that diagnosis is a matter of making a case of the evidence adduced in the study of the patient. Here, as in legal cases, the physician, who is the sole and final judge, must bear in mind the important fundamental rules: (1) The fallibility of the witness; (2) the credibility of evidence; (3) negative testimony. These apply all the way from the action and the statements of the patient to physical signs and symptoms and to laboratory findings. The older physicians have doubtless observed how the word pathognomonic, so glibly used in former times, has disappeared from medical parlance; it is dead language. In making a diagnosis, we start out with two facts: The patient is sick or

thinks he is; and if he is, something has made him sick.

The diagnostician begins his study of the case as soon as he is introduced. He must needs have a searching look, must study the appearance, the manner of his patient; must gather at a glance the complexion, the state of nutrition, the apparent age, the agility, the pallor or ruddy glow of the skin, must see a thousand things in an instant, and, what is more important, must register them mentally or on paper for reference. These things are evidence. How does he walk? How does he sit down? Does he refuse to sit at all? Is it impossible for him to stand? Is he alert? Is he trustworthy, or is he probably a liar? Who is with him? Would the presence of his companion incline him to lie when you uncover his soul and leave it naked until you have finished? If so, you need not hope for the truth. Do not inquire into such until you remove all cause for lying; then demand the truth. There is another type, rare but real, who lies just to see if the doctor is clever enough to discover his illness, and who does not wish to give information; he just wants the doctor's opinion. All good doctors have an opinion about each and every such individual, and the opinion is clear-cut and emphatic, but it is such that its expression before a Christian audience would be disgraceful. With such the scientific doctor can have no dealings. This preliminary study of the patient is very helpful in the interpretation of his statements to be made subsequently. That is the reason the doctor prefers to gain his information directly from the patient if practicable, instead of from a relative or friend who comes along. Hear-say testimony is incompetent; let them tell what they know and let him who knows it tell it. How can any individual tell how another's headache feels? Let him tell it. The friends and family may be able to tell how the patient acts during his pain, but we do not consider them competent to interpret. That is our duty; often enough we are misled into the conviction that a

malingerer is a sufferer, and sometimes the other way around.

Next comes the history of the case, methodical, in detail, written, sought in a routine fashion. It should be such a history, not as relates to the case in hand, but just a history that might relate as well to any other illness; a history taken with the view that if anything in the past life, a disease, an operation, an accident, a habitat, a habitation, an association might perchance give a clue to the correct interpretation of the present complaint; or by suggesting a reasonable cause, explain a present pathology. This history cannot be taken perfunctorily; it must be a search for all the facts that pertain to the case, and done with an astuteness that can read the truth from the eyes of the patient whose mouth is full of falsehood, or which knows from the demeanor of the patient and from his sincere and consistent statements that he is telling the whole truth. This astuteness must be equal to the task of reducing to actual size the statements of those who habitually exaggerate their utterances, or who, trying to tell the truth, overstate it because of fright or misrepresentation of the actuality. It must go to the trouble of inquiring after important history by altering the questions put until the examiner finds what he wants or convinces himself that it cannot be found. The most valuable historic evidence is often looked upon by the patient as the most trivial, even to the point of forgetting it entirely.

The rule for obtaining the history of the present illness and its symptoms is the same as for the previous history. This brings the case to the physical examination. It should be emphasized, over and again, that no physical examination should be undertaken when either physician or patient has not sufficient time. It is too important to rush. Not long since a patient came to me desiring a diagnosis of a serious upper abdominal complaint at two o'clock, and stated that she must catch the three o'clock

train. That would have been a farce. I could perhaps have told something worth while, perhaps not, probably the latter. But why should I hazard a guess as an opinion, and why should the patient risk her life or her health on any man's guess? If a guess is wanted it is cheaper for the patient to do it himself; it may not be altogether as good, but I have seen it too often prove embarrassingly better.

Some question has been raised about complete examination. None can be raised about a complete physical examination. That is always necessary in case of serious illness, and should be considered necessary in most minor illnesses. There is no reason why physical examinations should not be complete except that the doctor or the patient should be unwilling. In this case, they should agree to separate as friends. More failures in diagnosis come from imperfect examinations than from ignorance. No examination can be complete on an unstripped patient. We have got to see, feel and hear, often inaccurately enough at best. Then why should our work be crippled by increasing the equation of error? It is easier for the doctor and patient both to escape complete examinations, but a reputation is at stake on one hand, on the other health or life. It is not fair to either. When the attention of doctors is called to this they say "Yes, yes, that's right, amen, amen." That doesn't help. The only thing that does help when we get such a stimulus is to go home and begin and continue to make examinations right. It's incredible how much better a doctor becomes when he gets converted to this practice. It costs more. It's worth more and everybody able to pay his bill knows it is; and when they get sick they should want always to know first what's the matter, not simply what, but all that is the matter.

Allusion has been made to the fallibility and to the credibility of the evidence found in a case of illness. If it were true that $X + Y + Z = \text{appendicitis}$, and

other formulae other diseases, diagnoses would be so simple that a child could make them readily. Medicine would resolve into the cause and the treatment of disease. Occasionally the simple formula is found in actuality. It is more likely to show up simple as the disease progresses. Advanced cases of disease in general are much more easily recognized than early cases, but this carries with it a poorer outlook. It is frequently true that the easier the diagnosis of a certain disease the worse the prognosis, the more difficult and hopeless the treatment. When X , Y and Z each equals zero, when they are absent as symptoms, or when one or two of them is absent or present in lower intensity than usually, or when one or more of these is displaced by other symptoms, the diagnosis becomes the task of a full grown man, learned to the limit in the lore of his specialty. The importance of such a diagnosis may be shown by the fact that the treatments of two conditions which are to be differentiated from each other are sometimes diametrically opposite. A tale is told of Dr. Agnew in his younger days, how he was called into consultation with several older physicians to decide whether a swelling in a banker's groin was an abscess or an aneurysm of the femoral artery. If it was aneurysm incision meant death to the patient; if it was abscess failure to incise meant death. Agnew diagnosed abscess. All the other consultants except one withdrew from the case and it was Agnew's lot and duty to assume the responsibility of his diagnosis and operate. Thus came the cure of his first important case, and his first fee.

These variable symptoms even go further than to be absent or only insignificantly present. They frankly imitate other diseases; typhoid simulating malaria, sepsis simulating either. Most surgeons of extensive practice have hidden somewhere in the recesses of memory a case of pneumonia whose appendix they mistakenly removed. Symptoms even go further than this. A

pain in one part is often due to a lesion in a rather remote part, going so far as to cross to the side opposite. If to this you add the possibility of the presence of partial or complete situs transversus the difficulty increases and one can see how wakefulness and watchfulness must be the constant guardian angels of the doctors.

Since our modern conception of focal infection has been established and popularized, we are confronted with the sometimes difficult determination as to whether a derangement at a given point is due to local or remote pathology. Often we decide in favor of the latter, which accounts for the vanishment of some of our old diagnoses of rheumatism. It must also be determined where this focus is that causes this remote pain or swelling or stiffness, and, if cure is to result, to satisfy ourselves whether there may not be more than a single focus. If the foci are multiple and the patient unable to tolerate eradication of all of them, we must decide in what order their elimination should be undertaken to insure the earliest relief. It is not enough to remove the tonsils of a case having also a bad gallbladder, or vice versa. We would gain much in public confidence if we had physical examinations (may I say especially in our tonsil cases) and frankly told them the whole truth.

Diagnosis must determine what ails the patient and what else ails him, or whether anything ails him. It must indicate what the treatment shall be and whether the general condition will enable one to do the necessary work safely; whether the patient will stand the operation. This cannot be too strongly impressed; it is a rather too common failure in certain lines of work. The diagnosis must never stop at finding the cause of complaint; it must find the condition; the general condition of the patient. The word diagnosis means "I know through," and through we must know, throughout, if we are to measure up half way to the task we have assumed. How

easy it is to get a brief history, do a very limited examination, recognize a hypertrophied prostate and refer the patient to the surgeon with recommendation of prostatectomy, when arteriosclerosis is extensive enough to kill him shortly without the added burden of surgery. That is not diagnosis, it is a disgrace. What ails the patient? Can it be relieved? Is the remedy more dangerous than the disease? That is what the patient wants to know and has a right to demand and the duty to pay for. When and where this kind of diagnosis is made mortality, particularly from surgery, is less, unnecessary operations are fewer. It is much easier to recognize gallbladder disease than to know whether the heart has undergone sufficient myocardial degeneration to make cholecystectomy a hazardous procedure; much easier to recognize an abscess than the hidden diabetes behind it, which determines the prognosis almost exclusively as a grave outlook.

It has seemed wise to consider negative evidence and credibility of evidence together, for they are so closely allied in diagnosis as to be practically inseparable. To put it into a more succinct form negative evidence is often utterly incredible, accepted as valueless, and consequently ignored. This is an every day experience. It is the inner significance of the common statement that we do not see typical cases any more and is so much the more to the credit of the profession. Diagnose before the disease has had time to show too many of its characteristics, before it advances far enough to be typical and you will be great; great will be the reward to your patients in reduced morbidity and mortality. I can conceive of no more grievous error, none more dangerous, than dependence upon the constancy of any one symptom. Many have gone upon the rocks because they believed that appendicitis or other inflammatory lesions were to be ruled out because the leukocyte count and temperature were normal; others because they forget that non-inflammatory processes (for example malign-

nant tumors) may be attended by rather high and persistent leukocytosis and fever. It is by interpretation of all the evidence that diagnoses are to be made.

The layman often has unwarranted faith in X-ray examinations. I fear this faith may be unwarrantedly encouraged by members of the profession sometimes. If we could once fix in our minds the fundamental conception of X-ray examination whether by fluoroscope or skiagrams and have the integrity to tell the truth about it, a great forward step would be made in understanding the successes and failures of X-ray diagnosis. It is marvelous, but not perfect. The principle lies in the fact that all X-ray studies are studies of shadows; and if the thing sought by fluoroscopy or skiagram casts a shadow of the same density as that of the structure in which it lies, then obviously there can be no X-ray evidence of its presence. A noteworthy example of this error is the great frequency with which such examinations have in the past failed to reveal gall-stones, often misleading the patient into an avowed or secret conviction that no stones were in his bile passages. If we would interpret negative evidence as nescience instead of denial, we would approach much more nearly to the truth.

Two things surgery must avoid if it is to serve well, two incompatible things, procrastination and haste. There is no defense for bringing an unstudied, unprepared patient into the hospital and operating on him immediately, without due investigation of his case, unless his disease is an emergency. If he knew the truth about such things he would not allow it. But so long as he and we are content to accept, on guess, that he has this one malady and that he is all right otherwise, so long must he and we bear the consequences, which do good to neither; he the consequence of increased mortality, incomplete and unnecessary or incorrect surgery and failure to be cured; we the chagrin of unscientific work and the torments of an outraged conscience;

yes, even the latter, for we know it isn't right when we do it. Surgery is a serious business, and justifies the employment of enough time, enough study, enough consultation, enough laboratory work to enable us to know what risk we assume, and to tell the patient what the risk is; he has the right to know, constitutional and inalienable. Besides, perfect knowledge and perfect frankness are the two characteristics which, coupled with skill, appeal most to the people, who depend on us for health and life; on whom we depend for a livelihood. A freak or a fool has no place in practice.

A single pointed illustration will be given, shameful as it may seem to give it. It seems to be true that we are seeing more and more cases who have had their appendices removed with no benefit, and statistics are at hand which very clearly and, I think, very dependably show that the mortality of those operated for appendicitis has increased 30% in the last few years. The removal of the appendix for other causes of symptoms is plainly due to mistaken diagnosis.

The increase in the mortality may be attributed to many causes, the responsibility for which, with one possible exception, rests on the shoulders of the profession. The exception is considered first, but it would seem to be unimportant. This exceptional cause for increase of mortality may be found in an increased number of families who refuse to call a physician early or who undertake to treat appendicitis without calling the doctor at all. But this explanation is unsatisfactory, for the laity know probably more about the symptoms, risk and treatment of appendicitis than any other surgical lesion. It is utterly unreasonable to explain the increase on this count.

Then the profession must take the blame. Are we diagnosing acute abdominal pain as well as we might? Are we prescribing for it over the telephone without having seen the patient? Are we fully convinced that surgery is the only treatment for ap-

pendicitis? Do we really know that the administration of purgatives, by far too frequent, instead of benefiting the patient, actually increases the rate of perforation 400 percent? Do we really understand that the operative mortality in clean appendix cases is less than one in a thousand, and in perforated cases probably ten or more in a hundred in average hands? If we do not know these things, the public welfare requires that we get informed at once. Do we doctors and laymen know a surgeon when we see him? Or do we think that every man who is willing to cut human flesh is a surgeon? What training has your surgeon had? Under whom did he train? Where did he train? How long did he train? How much work has he done? What kind of facilities and what kind of collaborators has he? Does he diagnose his cases? Is he slow to study and swift to operate? Is he really a surgeon or just a plain operator? These questions may seem hard; they may seem to imply a hard and unsympathetic answer; but somebody's to blame for the increased mortality of appendicitis and other similar things and I am sure it behooves us in the profession to learn first where the cause lies and what it is.

We have assumed a great responsibility, as great as human life. Facilities are at hand for continued improvement of our work, for better study, better results, wider influence. Are we equal to it? I do not mean intellectually equal. That we are. But have we the moral courage to admit our obligation and the grit to live up to it? Let us ask ourselves if there is a newer, better way, and at the least to compare it with the older methods and decide whether it would be to every one's interest to adopt the advantages that may be constantly had by keeping pace with the amazing advances of scientific research.

232 Lambuth Building.

UROGENITAL AILMENTS OF MIDDLE AGE.*

H. W. E. WALTHER, M. D.,
NEW ORLEANS.

The urologist often dwells upon the indiscretions of youth. To vary the program, swinging the pendulum the other way, and attempting to portray disorders which are observed chiefly after the fifth decade, is the object of this communication. Although conceded that the approach to management of diseases of youth and middle age differ radically, I feel that the matter has not been stressed as it might be. Much more conservatism is needed in handling old people than is demonstrated in many quarters. Particularly does this apply in genito-urinary patients.

Beginning with the renal and ureteral lesions, we encounter no end of pathological states which at times harass even the best among the profession. Although congenital malformations usually produce diseased organs in early adult life, there remains a definite group of conditions which fail to manifest themselves until middle age. Hydronephrosis, pyonephrosis, nephrolithiasis, hypernephroma, nephroma, hydroureter, ureteral stricture and stone of the ureter,—these are but a few of the common conditions we are called upon to relieve. In many instances much can be accomplished by non-surgical procedures.

In pyelonephritis lavage of the renal pelvis with some antiseptic is so universally accepted a procedure of relief as to need no special emphasis here. With hydronephrosis the retention catheter allowed to remain in the renal pelvis over a period of days, in some instances weeks, very appreciably relieves pain, high fever and a train of accompanying symptoms produced by retained toxic waste products. Where a calculus totally blocks the uretero-

*Read by invitation before the Sixteenth Annual Meeting, Association of Surgeons, Illinois Central System, Biloxi, Miss., December 3-4, 1926.

pelvic outlet, again the retention catheter serves a useful purpose in re-establishing drainage. Even if no permanent good accrues from such a treatment, by its employment a patient can be gotten in shape for surgery with more hope of ultimate success than if the procedure were ignored.

Certain cases of advanced pathology in the upper urinary tract will not respond to transureteral manipulation and here surgery might become imperative. In these instances conservatism again should be practiced. Rarely are we dealing with patients with normal hearts, lungs, or kidneys. The selection of the anesthetic is important. Local infiltration with novocain where this mode of alleviating pain is applicable proves a boon to many. Should the operator feel that he is not sufficiently skilled in local anesthesia, or where the patient fails to co-operate, he should insist upon ethylene and oxygen inhalation. Sometime a combination of local with gas proves most satisfactory. Then in dealing with kidney lesions, nephrotomy should be practiced in every instance where nephrectomy can be avoided. Mere incision and drainage for the liberation of urinary stasis, pus accumulation or stone impaction produces far less shock to the patient than where nephrectomy is practiced. Apart from the shock resulting from prolonged traumatism, the fact that the other kidney is often not in perfect condition militates against taking out an organ whose mate might not be able properly to sustain life. This dictum should obviously hold in all renal surgery but most particularly does it apply in sufferers of middle age. I wish to voice a protest against too indiscriminate surgical intervention in nephroptosis. In thin subjects apparently suffering from wandering kidney it is the exception rather than the rule to have nephroxies hold. My observations, extending over a period of sixteen years, lead me to believe that surgery is a failure in this type of lesion. Supportive belts or corsets and an attempt at building up

these individuals, thereby increasing the fatty capsule surrounding the kidney (which holds it in position) will do much towards relieving symptoms. Ureteral calculus is a condition which causes excruciating pain to many. The number of appendectomies that have been performed for pain due to right ureteral stone will never be known. We should employ more frequently the roentgen rays and urinalysis in obscure abdominal pain. Much can be done in the way of alleviating the ureteral colic, as well as aiding in stone expulsion, by the use of ureteral catheters and dilaters. Here again the retention ureteral catheter has a place. Only where the stone cannot be made to pass, and where it is clearly evident that serious embarrassment to the kidney is imminent, should ureterotomy be undertaken. Ureteral stricture and kink demand cystoscopic attention. Until recently stricture of the ureter went unrecognized. It occurs far more frequently in women than in men and causes much misery. Gradual dilatation with graduated bougies gives prompt relief although, as with urethral strictures, the treatment must be repeated at intervals.

In suspected lesions of the upper urinary tract, urography is routinely employed in every case in order that no anomaly shall go undetected. By the painless introduction of sodium iodid solution through the ureteral catheter, while the patient is on the X-ray table, many obscure lesions are recognized that could not be otherwise detected.

Retention of urine in old men is a condition every one of us is called upon to relieve. As new growth of the prostate is the most common factor in the causation of retention it becomes a problem as to what is the best method to employ for relief of the condition. Whether to rest satisfied with frequent catheterization or whether it appears wiser to subject the patient to suprapubic cystotomy is a problem that requires much consideration.

It is often observed that the prostatic growth is so extensive that the catheter fails to pass the obstructing bladder neck. This is not due to a stricture nor is it caused by the prostatic growth totally occluding the bladder outlet. The trouble is that either one of the lateral or the middle lobe is so large, and is so situated, that only rubber catheters stiffened by a wire stylet or silk catheters with a Coudé olivary tip will ride over the obstruction. Ordinarily it is more rational to tie in an indwelling catheter for permanent (though intermittent) drainage than to subject the patient to several catheterizations a day. Most of these cases demand hospital care. An investigation of the heart, lungs, blood pressure, renal function and chemical study of the blood should be carried out to determine the status of the individual and his probable rating as regards surgical risk. If the patient be one in which ultimately a prostatectomy is contemplated the choice of two procedures, in dealing with the first stage, offer themselves. The one, as mentioned above, is the indwelling catheter, used largely at the Mayo Clinic today; the other, the insertion through a stab wound, of a Pezzer catheter, and suprapubic drainage. Surely the indwelling catheter should always be tried first. Some patients tolerate it nicely; others will not tolerate it for an hour. Where the indwelling catheter seems to aggravate rather than relieve, suprapubic cystotomy is resorted to. A large Pezzer catheter (36 F), of the best quality of rubber obtainable, is selected. A good catheter need be changed only once in every three or four months. Each time a new one replaces the old we drop down a few sizes in order to facilitate reintroduction. Not infrequently this is as far as we dare go towards relieving many patients who demonstrate, by subsequent tests of renal function and blood chemistry, that their reserve is low. It would take us too far afield to go into all the details that associate themselves with the care of prostatism. Suffice to say, where the patient thrives under adequate bladder drainage,

sufficient time is permitted to elapse before prostatectomy is carried out. This time can only be determined after repeated painstaking studies of blood pressure, renal function, and blood chemistry which must become stabilized before operation can be attempted with safety. It is now my custom to do a bilateral vaso-ligation at the time prostatectomy is performed. Just to what degree this procedure "rejuvenates" the patient is debatable. But it does prevent epididymitis from complicating the surgical removal of the gland and is a precaution worthy of consideration.

While on the subject of the prostate, chronic inflammations of this structure along with chronic seminal vesiculitis deserves emphasis. The role that these organs play in the perpetuation of foci of infection in the male cannot be overestimated. A physical examination on a man over fifty is not complete unless a rectal palpation of the vesicles and prostate has been recorded.

Especially important is a microscopic examination of the secretion from these organs. Many men in advancing years complain of vague pains about the body that are directly traceable to infection here. Routine rectal palpation still needs emphasis therefore. Systematic massage, accompanied by physiotherapy in obstinate cases, invariably brings relief.

Stone in the bladder of either sex demands removal for two reasons. First, it acts as an obstructing factor to the outflow of urine from the bladder which, in turn may, by back pressure on the ureters and kidneys, produce serious renal disease. Second, the pain many of these calculi give make life miserable at each voiding. Only large stones and those in contracted bladders should be removed surgically. The lithotrite is an instrument that has been much neglected by the surgeon. Crushing stones in the bladder requires some skill but the advantage, of being able to remove piecemeal a stone through a urethral evacuator instead of subjecting

the patient of middle age to a major operation, should be self evident.

No group of urological ailments of advancing years give more apprehension than tumors of the bladder. The fact that most of these lesions are malignant makes their management a disparaging affair. Even today only too few of the lay public realize that cancer may remain symptomless for years before making its presence known. Without symptoms you can hardly expect a patient to consult a physician. Yet were periodic health examinations more universally adopted many carcinomatous excrescences would be recognized in their incipency when irradiation is easiest. So often a patient is seen with a painless hematuria (of only a few days standing) but at cystoscopy we recognize an infiltrating growth covering the entire vesical trigone—sufficient proof that the tumor is one of advanced type and one not infrequently found to have already metastasized to neighboring structures and therefore frankly inoperable. Such a picture as depicted above, holds equally well for carcinoma of the prostate. Usually a symptomless ailment in the early stages. Only too often by the time the clinical diagnosis is made metastases are evident in the seminal vesicles, spine, ilium, and femur. Truly we are confronted with a most helpless state of affairs. Radium and X-ray have done little to mitigate the advance of the process. Where the hemorrhage assumes alarming proportions, suprapubic cystotomy is demanded to put the bladder musculature at rest. By a liberal exposure we destroy with the cautery as much of the growth as possible. Naturally all accessible bladder growths are resected, but with prostatic malignancy, one had best remove only the obstructing part of the tumor with high frequency cautery. It is often deemed wisest to leave prostatic cancer unmolested for fear of disseminating carcinoma cells.

Diverticulæ of the bladder wall are often the cause of vesical symptoms in the

aged. They are readily recognized at cystoscopy, but their scope can only be determined by cystogram. Surgery offers the only cure but in the aged, where major manipulations might prove disastrous, permanent catheter drainage, either indwelling or suprapubic gives comforting relief.

In neurological conditions affecting the urinary apparatus, cystoscopy frequently reveals evidence of a diseased cord before the reflexes are permanently impaired. The typical "cord bladder" observed in every cystoscopic clinic, with the characteristic placement of trabeculations about the ureter orifices, are of considerable value to the neurologist in arriving at a concise diagnosis.

Phimosis frequently gives no trouble until middle life when, by the intervention of balanitis or balanoposthitis, circumcision or dorsal slit becomes imperative. It is a mistaken attitude that many of the profession take that circumcision is to be practiced only on male infants and growing youths. Papilloma about the prepuce and glans in the male and at the urethral meatus in the female (caruncles) are met with fairly common. These lesions must be forever classed among the precancerous manifestations of advancing years and should be promptly destroyed. Their removal is best accomplished with some type of cautery, the best of which is the high frequency spark. Hydrocele in elderly men is frequently seen of such size as to cause discomfort, many of these cases of extreme size have been concealed by the owner for many years until by sheer weight the patient is forced to seek medical relief. Whether to practice the radical operation in these folks or whether it appear sounder judgment to simply aspirate these serous accumulations, rests with the individual. In my own practice aspiration in the office seems the wisest practice. Urethral stricture, whether in male or female, may produce a chain of symptoms most distressing. Many come seeking relief for "bladder trouble." This is particularly true of

women. I have treated a multitude of female sufferers from vesical distress and given immediate relief by dilating the urethra up to 28 or 30 F. Many of these individuals had been given prescription after prescription for "cystitis" without relief. Urethrotomy, either internal or external cannot be too emphatically condemned. Cutting operations on the urethra invariably add insult to injury. By the use of silks filiforms and bougie followers, ninety-nine out of a hundred strictures can be successfully dilated. In rare instances where the process has gone too far for instrumental relief, a suprapubic cystotomy with retrograde dilatations offer the maximum relief with a minimum tissue destruction.

It is hardly possible completely to cover the urogenital field in a paper such as this. Only the more salient features can briefly be enumerated. But sufficient has been said, I trust, to reawaken your interest in behalf of the aged patient. The attitude so many practitioners take, that because the patient has reached a ripe old age nothing can be done to relieve certain definite symptoms, seems truly a reflection upon our calling. Though radical therapy is to be condemned, palliative measures are ever welcomed. A sympathetic understanding of the ailments of old age bring just reward and I therefore voice a plea in their behalf.

INFLUENZA AND ITS COMPLICATIONS.*

F. J. KINBERGER, M. D.,
NEW ORLEANS.

According to Forscheimer, all widespread epidemics of colds should be looked upon as influenza. Observations during the recent epidemic would lead us to diagnose the condition as one of influenza, when we study the group of symptoms as presented in the various cases.

The several clinical varieties can be divided into the catarrhal, respiratory, gastro-intestinal and nervous forms. From experiments made by Wollstein the real habitat of the influenza bacillus is in the bronchial secretion. Her findings seldom revealed the presence of the influenza organisms in the secretions of the nasopharynx or discharge from suppurative otitis. It is rarely found in the blood, but has been isolated from the spinal fluid in pure culture.

Influenza is one of the most highly contagious diseases in existence. It spreads with great rapidity, particularly in institutions, crowded office buildings, etc., where observations show that fully 50% of those exposed become affected. Efforts should be made to isolate all cases of suspicious influenzal pneumonia as soon as diagnosis is made. Infants are thought to be immune, but recent observations show this to be wrong. The majority of my patients were between the age of one month and six years.

Symptomatology: The greater number of cases presented the catarrhal symptoms. The onset was usually acute, nasal discharge, mucus in character, red inflamed throat with irritating cough, sometimes croupy, with temperature running a spasmodic course—at times only 99—then suddenly rising to 103 or 104. This was not accompanied by any unusual nervous symptoms. Usually within 36 hours an otitis would manifest itself. As a rule the temperature would rise, causing restlessness in the infant and complaint of more or less pain in older children. These cases would run their course in about 4 or 5 days, with no further complications.

In the respiratory type, I found a group of varied symptoms. The acute onset, with typical red throat, coated tongue, injected tonsils, irritating cough due to a tracheo-bronchitis and negative findings in the chest. The cough associated with this form was of a very irritating character. The ordinary sedatives or inhalations had little

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or no effect. It looked as if the condition had to run its course.

In another form these cases would have the usual symptoms, in addition a rapid invasion of the chest, causing a typical capillary bronchitis. The examination of the chest would show numerous fine rales at the base of both lungs. This was accompanied by more or less prostration, dyspnea, cyanosis and fluctuating temperature. The lung findings were fleeting in character. The rales would practically disappear only to return in a most pronounced degree.

I believe the use of citrate of soda to be harmful in this type of pneumonia and recourse to atropine was necessary, and I am sure helped my patient.

In another case of pneumonia the initial symptoms were abdominal pain, vomiting, loss of appetite, with lung examination showing an involvement of the upper right lobe. Persistent loss of appetite seemed to worry the patients. As in all apex pneumonia the temperature remained high. In this case, the ankle and wrist joints caused considerable pain. Middle ear was also a late complication. The heart action was usually very fast. According to Cautley, the toxin of influenza has a powerful influence on the heart muscle, and may cause tachycardia, arrhythmia, attacks of collapse with small thready pulse or even angina. The prostration in some of these little patients was quite marked. Profuse sweating is a frequent nervous symptom. Joint pains were often noted. The children stated that the bed clothing hurt their toes.

The gastro-intestinal type started with severe vomiting, nausea, sometimes diarrhea, high temperature, abdominal pain. There was no rigidity on palpating abdomen, but complaint of pain on pressure. According to Brennenman, enlargement of the mesenteric glands may be the cause of abdominal pain. The failure to retain fluids and the diarrhea would produce signs of dehydration that were quite alarming. In two instances I noted an enlarged spleen.

The cerebral form I did not see in my group of cases. These usually have high temperature, great prostration and nervous manifestations in the form of intense restlessness, delirium, convulsions, etc. It was quite frequent to see a scarlatiniform rash over the body. The absence of the strawberry tongue, however, ruled scarlatina out, and on later observation there was no desquamation.

The blood findings showed usually an increase of the leucocytes, indicating the invasion of secondary organisms.

In only two cases, one observed in children's service in Touro and in one private practice, did the blood show a leucopenia.

One case with simple catarrhal symptoms giving the following picture: Leucocytes 6,750, N. 51, S. M. 44, L. M. 4, E. 1. There were no complications.

The other case in which the X-ray showed an early bronchial infection: The leucocytes 5,750, differential count N. 54, S. M. 39, L. M. 7.

In the other cases the usual picture was an increased white count, ranging from 14,000 to 22,000, with increase of polymorphonuclear neutrophiles.

In a case following broncho-pneumonia, with otitis and suspicious mastoid, an increase of leucocytes from 18,000 to 22,000 in 48 hours warranted operation, even though the X-ray did not show much destruction in the mastoid cells; operation revealed quite a bit of destruction. The culture showed pneumococcus and a diphtheroid organism. The urinary findings invariably showed a marked acetone reaction, slight trace of albumin and occasional hyaline cast.

In one child his attack was ushered in with symptom of an acute nephritis. Blood casts of all kinds, pus cells, albumin, etc., and on culture showed pneumococcus and staphylococcus aureus. On the third day he developed an irritating cough, with an

otitis, which cleared up on phenol and glycerine. His urinary findings gradually returned to normal.

I believe, of all complications, the middle ear gave us the most concern. The mastoid and accessory sinuses next. What later trouble will ensue from changes in the lungs remains to be seen.

Harlow Brooks remarks on the frequency with which pleural thickening and pleural exudates occur after pneumonia.

Treatment: The general care and treatment were symptomatic. Immediate isolation of case if possible. The pneumonias were treated with alkalies, counter-irritation. Diet was usually carbohydrates, potato soup, cereals, orange juice, and etc. I usually omitted milk from diet. Fischer advises the addition of buttermilk, claiming it to be non-toxic. Plenty of fluid.

My observation on the pneumonia cases was that they terminated by lysis rather than crisis.

Abdominal pains were rather troublesome. The use of aspirin, pyramidon and warm applications usually helped.

Pains in the extremities were met with hot applications. In one case that developed latent tetany, with typical carpopedal spasms, large doses of calcium bromide and hot applications relieved the symptoms. The child is now on cod liver oil and phosphorus.

In the gastro-intestinal cases where the patient was unable to retain fluids by mouth, injections of 4 ounces of 5% glucose by rectum every 4 hours with 20 to 30 grains of soda bicarbonate helped. If the patient could not retain by rectum, the glucose was given by hypodermoclysis.

Stimulation in cases of pneumonia, such as brandy, digitalis and camphor, usually helped.

Dr. W. M. Johnson (New Orleans): Dr. Kinberger has given us a very interesting, clear-cut paper, and I thought it might perhaps be permissible if the ear, nose and throat man gave a few of his ideas along the line of the complications of influenza. Intranasal conditions predisposing to accessory sinus diseases are particularly those interfering with the normal ventilation of the sinuses. The normal relations between the frontal and maxillary sinuses are very close. In the typical nose both cavities open into the infundibulum, a trough which opens in front into the frontal and behind into the maxillary sinus. While the etiology of infective sinusitis is not confined to influenza, one may accurately affirm that the largest proportion of cases is a sequence to or a complication of this infection. The diagnosis of sinus involvement in these cases is based upon localized pain, geographical appearance of pus in the nose, transillumination and x-ray interpretations.

The method of treatment of these cases is of the greatest importance. Personally, I am opposed to immediate operative interference in acute cases either by puncturing the antrum, removing the middle turbinate or breaking down the anterior walls of the sphenoid. The greater number of fatalities in sinusitis results from the operative interference rather than from untreated, unhampered progress of the disease. Operative interference is justified only when there is agonizing pain, high temperature, failure in obtaining drainage and unsuccessful treatment.

We find sinusitis in children lots more frequently now than we did in the past. I think we must have and do yet overlook a great many of them.

Dr. Chaille Jamison (New Orleans): Whenever I hear of influenza as a general diagnosis I always wonder exactly what is meant. I saw a good deal of "flu" during the war, but when we say "influenza" we imply an infection with Pfeiffer's bacilli; that is, in a strict sense. The majority of cases that I have seen, and that have been examined by competent bacteriologists, do not show Pfeiffer's bacillus, and particularly the complications that occur in influenza are not complications (and that is particularly true of the more severe ones, the pneumonias) with the influenza bacillus. The organism that gives the trouble, as a rule, is a streptococcus.

I don't mean to attack anything that Dr. Kinberger has said—not for an instant, but I do feel that for the sake of scientific nomenclature we are using the term "influenza" to cover everything from a pain in the ear to a pain in the foot, diseases of the chest, ear and sinuses, and

I do not believe that Pfeiffer's bacillus is at all responsible for most of those conditions.

Dr. Kinberger (in closing): In the fore part of my paper I mentioned that the majority of cases should be looked upon as influenza. However, it is very seldom that the influenza organism has been found. I think the difficulty in children is to get the proper secretions for examination. We know it is found in the spinal fluid, but the secondary organisms are the ones that usually give us most trouble. I agree with Dr. Jamison that it is impossible to say that a case is definitely influenza. However, the group of symptoms that have been ascribed to influenza fit in with the majority of cases that we see in daily practice.

FOCAL INFECTIONS FROM THE OPHTHALMOLOGISTS' AND OTOLARYNGOLOGISTS' VIEW.*

LUCIEN S. GAUDET, M. D.,
NATCHEZ, MISS.

Not so very many years ago, focal infections held a small or minor thought in medicine. That was because the medical profession had not yet placed its vital importance in its proper realm in medicine, but as time has gone on, focal infections have taken their proper places in the cause and production of pathological changes within the human body.

Often medical men would reason with themselves and with others as to why, of humans living under like conditions and circumstances some would have appendicitis, others would not, some would have a kidney or gall bladder trouble, others would not, and so on and on down the line. Of course all realized that there was a cause coming from within the body of the person so affected.

And now comes the fact that this cause in fully 75% of these cases is due to focal infections, and rightly so. The blood stream in its circulating functions, reaching every part of the body, its different organs,

represents a continuous moving current which can and does carry along in its stream any foreign substance that is not attached, and small enough to move along until it comes to a vessel whose lumen is smaller than the foreign body, and there it stops. Now let us see.

What is a focal infection? Why do some have focal infections and others not? These are pertinent questions, but are answerable.

A focal infection is best described in a simple way as follows: A point where pathological changes have taken place, plus bacterial infection, which may remain localized or radiate symptoms and other pathological changes to other portions of the body, than the point or location of the original or focal infection. Now the causes of the pathological changes that may take place will be best answered under the question why do some have focal infections.

Many things go to advance the cause of focal infections in the human body. All persons do not live under the same conditions, do not have the same hygienic advantages and surroundings, do not have the same body functions or metabolic changes, do not have the same body resistances and so on. Neither are all infective bacteria of the same virulency. Under this question many things have to be considered, beginning from early in a person's life.

Food, clothing, care of the body, care of the teeth and mouth, proper care of the throat, nose and sinuses all come in for a share in keeping the body health in a normal condition.

Today, hygiene as taught in the schools, with proper inspection of teeth, throats, noses, etc., and correction of the defects where found, will in time to come make its proper impression on the health of that generation upon which this is done, with a corresponding better health, and of course a reduction of focal infections. And I am only speaking of the focal infections coming

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under my line of work, for there are many other found elsewhere in the body.

Surely, if 75% of all focal infections take place above the clavicle, as many eminent authorities state, and rightly so, if you just take the dentist's opinion, then the subject of focal infections must at all times be new and interesting and of the utmost importance to the dentist and oto-laryngologist, and of more than passing interest to the remainder of our profession.

Experience has taught us enough in connection with focal infections to think first of teeth, tonsils, sinuses at the first call for investigation and location of any suspicion of a focal infection, and if they are guilty parties in the above mentioned percentage of cases, there is thrown a great responsibility on the branches of dentistry and otolaryngology in the location of these foci.

So often a focal infection is pictured as a walled off cavity filled with pus or infective material, as a root abscess, or a sinus involvement such as a frontal, maxillary, ethmoid or sphenoid trouble, but this is not always the case, as a focal infection may not always be a walled-off cavity.

We may have a chronic diseased tissue whose surface is exposed to the action of certain pathogenic bacteria, and from which may be derived all or some of the phenomena of a focal infection.

Also we have to consider that sometimes the predominating bacteria found on culture are not the ones that may cause the symptoms derived from a focal infection.

Going back again, and considering that 75% of all focal infections are above the clavicle, then the dentist and the oto-laryngologist more than any other specialist in medicine is so situated, as more often to see, observe and treat these conditions, as well as to observe the results on other parts of the body.

Again comes the question: Why so many focal infections above the clavicle?

Because these infections take place along the beginning pathways of the respiratory and digestive functions. In the performance of the respiratory functions, which take place both through the nose and the mouth, there enters air, moisture, heat, smoke, dust, cold, gases, irritating substances and bacteria, infective and non-infective of all kinds, to which are exposed the mucous membranes lining these passageways, which respond to the action of these irritating or non-irritating substances as the case may be, remembering that, insofar as the nasal cavity is concerned, all sinuses with their ostia leading into the nasal cavity, have their inner portions lined with a continuation of the same mucous membranes, and subject to the same pathological changes as the mucous membranes lining the nasal cavities.

There also may exist anatomical, mechanical and traumatic changes in the nasal and pharyngeal passageway further to aggravate pathological conditions, and interfering with proper ventilation and drainage of these portions.

In the performance of the digestive function, there is taken into the mouth all sorts of food, raw and cooked, fresh and spoiled or uncontaminated and contaminated, hot and cold, water pure and impure, moisture, gases, etc., all of the above often times laden with non-pathogenic and pathogenic bacteria.

These substances come in contact with all portions of the buccal cavity, including the teeth, gums, tongue, soft palate, tonsils, pharynx, etc.

In other words, the greatest amount of substances to sustain life and the performance of the functions of the human body are received through the nasal and buccal cavities, with a consequent entrance of a majority of the causes of disease and infection.

Both the nasal and buccal cavities yield rich cultures of bacteria at any time, harmless and harmful.

Take the tonsils and adenoids for instance, especially the tonsils. Being rich in lymphoid tissue, soft mushy, consisting of many folds and cavities or crypts, low resistance, plus heat and moisture, no better field for infection presents itself in the body which accounts for pathological changes in from 90 to 95% of all tonsils examined.

The startling assertion has been made by a leading otologist that all cases of deafness developing under 30 years of age, are a direct result of nose and throat infections beginning in childhood, and can be prevented by proper attention to these infections as they occur.

If this be true, then lies a great responsibility on parents, welfare and school teachers, physicians and especially to the oto-laryngologist himself in the prevention of deafness with prevention within our reach.

Again we see the close relationship between certain eye diseases, as iritis, cyclitis, optic neuritis, etc., and infected tonsils and adenoids, slow to improve under ordinary treatment, with an immediate improvement and cure when tonsils and adenoids are at fault and are removed.

Going further, we have many cases of pain in different portions of the body, muscular, nerve, joint, arthritis, cardiac, kidney gall bladder, circulatory, digestive and other phenomena directly traceable to a point of infection, which may be and are usually teeth or tonsils.

The infections of the nasal and nasopharyngeal passageways present two groups: one in which you have inflammatory changes of tissue plus infective bacteria; one in which you have inflammatory changes of tissue, plus infective bacteria, with deeper changes in the tissue advanced to a necrosis of tissue and bone, purulent secretion, and a more distinct and further advanced pathology.

Both types are often seen, the first difficult to diagnose, the last named showing more clinical evidence and pathology and therefore easier to diagnose.

The first, however, is made easier with culture tubes and microscope when frequently used. In this respect, Solis-Cohen and his co-operators have brought out a very interesting observation, worthy of much further thought and investigation.

They found that by using human blood as a culture media taken from the same patient or person that the culture was taken, thereby making use of the certain substances that act in a resistive capacity against the invasion of bacteria in the body, to differentiate between the bacteria that were non-pathogenic and pathogenic to the particular body from which the blood and culture were taken, they were able to observe from these cultures the bacteria to which said body was immune, and those that were pathogenic to it.

The bacteria that the body was immune to, would not grow upon this media, but those that were pathogenic, and to which the body had no immunity grow on this media of human blood. This is a very interesting phase in the study of immunity.

Working upon this basis, they made cultures from the naso-pharynx, under the above mentioned conditions, and by making autogenous vaccines from the pathogenic bacteria and using them in treatment were able to get some very good results. This I should judge opens up another field of investigation in autogenous vaccines.

In the second type of infections, evacuation, irrigation, ventilation and drainage of course are the proper procedures, just as local applications would be to the diseased surfaces in connection with the use of autogenous vaccines in the first type mentioned.

I will not go into detail of the focal infections, because I have found that it will lengthen this paper unreasonably, but hope

that it will produce further thought and study among us and probably give us the reason or clue as to why so many vaccines, both autogenous and non-autogenous, are so often ineffective.

DISCUSSION.

Dr. D. C. Montgomery: Doctor Gaudet has written on a most important subject. I feel personally that we are just beginning to scratch the surface on focal infection. The condition is one which may be spoken of in two phases. There is in some instances a secondary infection that must be eliminated as well as the focal infection. In other types of cases the toxemia alone is present, to which our remote symptoms are due. Every now and then we are reading in the literature most excellent papers, accompanied with accurate statistics and complete records. Cotton has recently written on the condition of focal infection in the insane asylum. He makes some rather startling statements, but his records are so complete we must accept them, unless we can prove otherwise. Cotton states that all devitalized teeth are infected regardless of x-ray findings. I am satisfied that every impacted wisdom tooth, whether dead or alive, is an infected tooth.

The antrum is another source of infection that is misleading to a great many of us, and in many instances we frequently have a negative x-ray picture, perhaps a negative trans-illumination, and yet there are certain shadowy areas that suggest hyperplasia of certain parts of the mucous membrane. But if we culture these cases we will pretty nearly in every instance get a positive culture, showing there is a low grade of infection as the cause of these remote symptoms, or possibly a low grade temperature.

The ethmoid is another source of infection; for days and days of a period examination fails to elicit any evidence of infection, yet, by persistent and careful examination, we will find eventually a source of infection in this area.

The mastoids are also a source of infection. Dr. Marriot, who read his paper at the Southern Association, makes the statement that seventy-five per cent of all diarrheas of the child in the cool months of the year are due to infection in the mastoids. In my opinion, these infections are always secondary to a post-ethmoid infection—practically always.

One other class of cases I want to bring to your attention is pyorrhoea. I believe in every instance where we have a pyorrhoea we always have infected tonsils without question; and that removal of the tonsils is just as much necessary

as the treatment of pyorrhoea itself. I appreciated and enjoyed the excellent paper very much.

Dr. Ross E. Anderson (Jackson): Some months ago I had to do some work with some insane patients and I might give you some of my observations in regard to focal infections among those patients. For about three and one-half years I was a member of the medical staff of the State Insane Hospital here and last summer I did 150 tonsillectomies on these patients and quite a large per cent of these patients were benefitted and many of them appeared to be cured and left the institution. Tonsil pathology was about the only thing that I could find wrong with those whose tonsils I removed. In every case the tonsils were badly diseased. As I said, many of these patients recovered and went home and some of them in the short time of two weeks.

Doctor Cotton formerly claimed to cure nearly all of his patients by tonsillectomy. Since then he has found that resection of the colon in some of these cases is beneficial. I don't know anything about resection of the colon but in my opinion a large per cent of insanity is undoubtedly due to a focal infection in the tonsils.

Dr. E. H. Jones: Just a point of interest. Dr. I. C. Knox, of Vicksburg, has done (and is still doing) work which leads him to the conclusion that certain cases of gastric and duodenal ulcer are due to focal infection in the teeth and tonsils. He has made a preliminary report on this and will make a further detailed report at a later time.

Dr. L. S. Gaudet: I certainly appreciate the interest shown in the discussion of my paper. Doctor Montgomery brought out some very interesting points in relation to Doctor Cotton's work. I have followed some of it, too, and, of course, focal infection is a good deal like headaches, we could go on talking indefinitely, and still bring out some very new points. We are beginning to find out, as time goes on, that many new things are going to be brought out, which, of course, we are going to say are due to focal infection. A long time ago I started to follow Doctor Sluder in his work on ganglion headaches, and I read a paper a few years ago at Jackson, and I have been looking up different articles, and we find that type of trouble causes pains in all parts of the body; and so we will find focal infection enlarged and enlarged, and become broader, until in a course of time we will be able to eliminate focal infection and practically eliminate sixty or seventy-five per cent of the diseases that human beings are heir to.

SPINAL ANESTHESIA.*

P. GRAFFAGNINO, M. D.,

NEW ORLEANS.

Nearly twenty-six years ago Dr. Rudolph Matas, before this same Society, April, 1900, in his Chairman's Report, Section of Surgery, said: "I am convinced that all the dangers of general anesthesia with the classical anesthetics, chloroform and ether, whether alone or in combination with other agents, are not sufficiently appreciated and that the present indications for their use are far in excess of the actual demands of practice. I am also convinced that an unfounded and unjustifiable skepticism still prevails among many excellent, skillful and otherwise progressive surgeons, who, having neither the inclination nor the patience needed to acquire the latest, most advanced and efficient methods of local and regional anesthesia, or still confusing the imperfect and dangerous methods of the past with the safe and efficient methods of the present, still doubt and cling to general narcosis as the only means of abolishing pain in their operations." I feel that his remarks are as true today as they were then, and that the great progress made with spinal analgesia or anesthesia is not appreciated by most of the general surgeons of today.

In presenting this paper for your consideration, no attempt is made to add anything new in the way of anesthesia. That major surgical operations under spinal anesthesia have long ago ceased to be experimental procedures cannot be denied. Babcock, with an experience of 20,000 inductions, uses this method in ninety per cent of his serious operations below the diaphragm. Arthur A. Morrison of Alexandria, Egypt, in a report of 11,000 cases, used the method in more than 97 per cent of all his operations below the diaphragm. Jonnesco, Tuffier, Chaput, Desplas and a

host of Continental and American surgeons are now using this method, if not routinely in all of their major operations below the diaphragm, are doing so in a large percentage of their cases. Jonnesco, the most enthusiastic advocate of spinal regional anesthesia, uses the method for all forms of operations on any part of the body.

Spinal anesthesia, having passed its experimental stages, is at this time entering the third stage in evolution through which all medical innovations must pass before reaching their true level of usefulness. The actual risk involved in its use cannot be determined at present because mortality statistics vary so widely that no reasonably accurate index can be obtained.

Jonnesco reports one death in his last 5,000 cases. Chaput knows of no deaths among 7,000 cases. Tuffier reported one death in eleven years. C. C. Wells, in a summary of 28,746 cases, states that from 1908 to 1914 the mortality was one in 1,200 cases, and from 1915 to 1917 one in 16,000 cases. Babcock, in reviewing his last 15,000 cases, makes the following notation: "If used upon unselected patients and those who are bad surgical risks, without special safeguards, a mortality of one in 500 may be expected, but if used upon selected patients, with careful supervision, the mortality is probably less than one in 10,000." Chiene collected the reports of 12,000 cases—22 deaths—about one death in 570. Michelson, discussing the various attempts to calculate the mortality of spinal anesthesia on the basis of statistical compilations, gives the following divergent results: Tomachenski, 1-7847; Strauss, 1-2524; Chiene, 1-570; Hohmeier, 1-200.

HISTORY.

Spinal anesthesia had its beginning in the experiments of Dr. James Leonard Corning, which were published in "New York Medical Journal," Oct. 31, 1885, but it was not until 1889 that Augustus Bier of Kiel, by an experiment on his own body and those of his assistants, introduced this

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

method into surgical practice. Bier's method with cocaine was widely tried by many surgeons throughout the civilized world, but especially in France and America. Among the first, if not the first, to report a successful operation under spinal, performed at Charity Hospital of New Orleans, December 18, 1899, was a case of our own Prof. Rudolph Matas. Tait and Caglieri of Los Angeles used the method for osteomyelitis October 26, 1899, but did not report their cases until April, 1900.

Deaths were soon reported because of the uncertain and toxic effect of cocaine and the method lost favor everywhere. In 1904, with the introduction of the synthetic cocaine derivatives—stovaine by Fourneau, and, in the same year, novocaine by Einhorn—a new stimulus was given to spinal and the method became increasingly popular. Soon other synthetic preparations were introduced: alypin, tropacocaine, apothesine, etc. All have been used with greater or less success. Today, stovaine, novocaine, tropacocaine and apothesine are the drugs invariably used.

PHYSIOLOGICAL ACTION.

The physiology is that of a transient root interruption, chiefly affecting the posterior roots, with consequent analgesia and loss of tactile muscle and temperature sense. But the anterior roots with the associated white rami communicants are also blocked, causing transient motor paralysis and, especially important, transient vasomotor paralysis.

The posterior root block is essential, that the operation be painless; the anterior root interruption desirable, that the operation may be done with the ease and facility that complete muscular relaxation affords; but the interruption of the white rami, while it reduces bleeding and favors intestinal contraction and peristalsis, leads to a slowing and weakening of the heart action and a fall in blood pressure that may be hazardous. As the white rami through which

the sympathetic impulses are conducted to the entire body are associated only with the anterior roots from the second dorsal to the third lumbar, it is evident that if the anesthesia involves the lower lumbar and sacral roots, there will be little or no effect on the blood pressure, but if the fibers supplying the great splanchnic vessels and those of the upper part of the body are affected, a great fall in blood pressure will result. As a rule, the fall in blood pressure is directly as the height of the motor paralysis, plus the strength, concentration and dose of the particular drug used. A blood pressure fall of 20 to 30 mm. is moderate, 30 to 50 mm. not unusual, and a fall in the systolic in the radials to zero is occasionally seen. This fall in pressure, which usually lasts but fifteen to thirty minutes, may be combated by introducing adrenalin intravenously (2-15 m. 1-1000 sol.).

DISADVANTAGES.

(a) Spinal anesthesia is a technical procedure demanding attention and skill greater than that required in ether anesthesia.

(b) It invites criticism from patient and colleagues, because it is not a method in universal use.

(c) It is a peg upon which the neurotic or hysterical may hang many post-operative symptoms.

(d) It may require precise antidotal and resuscitating measures, which should be, but are not always, instantly available.

(e) The anesthesia is of limited duration, three-fourths to one and a half hours, and if the operation is unduly prolonged, ether, nitrous oxide, ethylene, or local may be necessary to finish it.

(f) Certain persons are bad risks, notably those in severe shock or collapse from injury or hemorrhage; those with circulatory failure or toxemia, or other forms of sepsis or cardiac decompensation; those

with greatly limited respiratory function, as from pleural effusions or new growths.

(g) Very elderly and obese patients do not stand depression of the circulation and respiration as well as the young and thin.

(h) No absolutely safe drug for spinal anesthesia has yet been found. The more efficient the drug, the greater the danger.

That deaths have been reported in connection with each of the drugs in common use, whether justly attributable directly to the action of the drug, cannot be disputed. That other serious complications, as respiratory failure, degeneration of the cord, meningitis, intrathecal hemorrhages, ocular paralysis have occurred is not to be denied, but it must be remembered no other form of anesthesia is devoid of danger, especially if applied injudiciously.

It is probable when adequate data, based on the use of newer and less toxic drugs, is available, the mortality and morbidity will prove much lower than it now would seem to be.

Babcock, in a recent article summarizing his experience in more than 20,000 cases, says: "I feel confident that spinal anesthesia, properly given, is far safer than gas oxygen or ether; nevertheless, I consider ether safer in unskilled hands than spinal anesthesia. If spinal anesthesia is dangerous, it is because it is used carelessly and without recourse to the necessary protective measures; if it is ineffective, it is because the technic has not been perfected."

ADVANTAGES.

(a) Spinal anesthesia realizes perfect analgesia with complete muscular relaxation. It produces a negative abdominal pressure, a most precious condition for easy and efficient exploration of the entire abdominal cavity and manipulation of the diseased viscus. The bowels become flat and lose their tendency to crowd the operative field. The anemia resulting from the fall of blood pressure adds another valuable element to the existing abdominal

silence, but in any case, hemostasis must be perfect.

(b) There is scarcely any post-operative nausea and vomiting, no gaseous distension, no real gastric disturbances, no motor restlessness, no lung and kidney complications, of so frequent occurrence following the use of general narcosis. There is consequently no strain on the abdominal wall, and therefore no local pain. The sutures are thus left undisturbed.

(c) Normal diet may be restored earlier; as a rule it is not interrupted if the nature of the operation permits. Convalescence is thus rendered shorter.

(d) Spinal anesthesia simplifies abdominal surgery by establishing the most favorable conditions for a clean operation and reducing to a minimum the operative and post-operative risks.

While the above describes the ideal result obtainable from spinal anesthesia, I am frank to confess that we have not obtained this result in all of our cases. The anesthesia has been perfect in about 80% of our cases, partially successful in 15%, and in about 5% a total failure.

The following table embraces all the spinal anesthetics recorded given at Charity Hospital, New Orleans, from 1899 through 1925; a total of 7,322:

1899—	1	1908—	266	1917—	427
1900—	13	1909—	298	1918—	316
1901—	44	1910—	233	1919—	383
1902—	4	1911—	220	1920—	411
1903—	12	1912—	279	1921—	349
1904—	56	1913—	239	1922—	399
*1905—	54	1914—	232	1923—	374
1906—	265	1915—	286	1924—	440
1907—	258	1916—	344	1925—	1119

*The 54 spinal anesthetics credited to 1905 cover only the months of January to May, inclusive—no record of anesthetics given in the interval to January, 1906, could be obtained.

Just within the past eighteen months has spinal anesthesia been employed to any great extent for general abdominal surgery.

An analysis of 699 major surgical operations, performed by myself and other surgeons in this institution, forms the basis of this report, which contains only those operations performed by the general surgeon and gynecologist:

ANALYSIS OF 699 CASES FROM JANUARY 1, 1924, TO JANUARY 1, 1926, FOR GENERAL ABDOMINAL AND PELVIC OPERATIONS.

DIAGNOSIS	Number of Cases	Emergency Operations	Appendectomy with Drainage	Incision and Drainage	Completed or Aided with Local	Complete or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
APPENDICITIS									
Acute Suppurative:	79	72	53	15	9	2	59	20	These 79 cases represent all forms and stages of the disease—suppurative, gangrenous, ruptured, with localized or generalized peritonitis. Of the 20 deaths (all emergency operations) none could be attributed to the anesthetic used.
1—Rt. Inguinal Hernia									
Acute:	59	42	1	—	11	1	58	*1	*Desperately ill when admitted. Positive Widal—Ulcerative Enteritis.
1—Rt. Salpingo-oophoritis									
Subacute.	61	—	—	—	5	2	61	—	
1—Phimosis									
1—Intralig. Fibroid									
1—Chronic Cholecystitis									
Chronic:	150	—	—	—	18	3	147	*3	*Rupture of the operative wound in one case, later intestinal obstruction, patient dying the 21st day after operation. One developed bronchopneumonia—in addition hemorrhage from bowels. Third case died of gen. peritonitis. Post-mortem showed gangrene and sloughing of appendiceal stump.
10—Retroversion of Uterus									
2—Retroversion & Rt. Cystic Ovary									
2—Retroversion & Bil. Salpingitis & Rt. Oophoritis									
1—Retroversion with Varicosities of Rd. Lig.									
1—Retroversion with Stenosis of Cervix									
2—Anteversio									
Chr. Appendicitis—Cont'd.									
3—Chr. Cystic Oophoritis (Unilateral)									
1—Rt. Salpingo-oophoritis									
1—Chr. Endometritis & Bil. Salpingo-oophoritis.									
2—Phimosis									
1—Rt. Inguinal Hernia									
1—Post-operative Fistula (Old)									
1—Adhesions to Gall-Bladder									
TOTAL	349	114	54	15	43	8	325	24	

I believe that spinal anesthesia has a special field in cases of purulent appendices associated with local or general peritonitis. The perfect anesthesia with absolute relaxation of the abdominal muscles, the powerful action in causing an emptying of the lower bowel, gives spinal anesthesia an advantage over any known method of anesthesia.

DIAGNOSIS	Number of Cases	Completed or Aided with Local	Completed or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
GYNECOLOGICAL						
Plastic:	45	1	—	44	*1	*Extensive tear—died on the thirteenth day—general peritonitis.
This includes amputations of cervix, trachelorrhaphies, cauterizations, colpotomies, excision of vulvo-vaginal glands, repair of vesico or rectal fistulae, anterior and posterior colporrhaphies.						
18—Salpingitis, Oophoritis, Salpingo-oophoritis (unilateral and bilateral) with Uterine Displacement and Appendicitis						18—Salpingectomies, Oophorectomies, Salpingo-oophorectomies (unilateral and bilateral) with Suspension and Appendectomy
14—Without Displacement						14—Without Suspensions
1—Without Appendicitis						1—Without Appendectomy
4—Without Displacement or Appendicitis....	37	6	5	37	—	4—Without Suspension or Appendectomy
1—Displacement of Uterus						
8—Displacement with Appendicitis						
6—Displacement with Cervical Lacerations, Perineal Lacerations, Cystocele, Rectocele, etc.—4 of the 6 cases had Chr. Appendicitis.						
	15	3	2	15	—	1—Suspension 8—Suspensions with Appendectomy 4—Suspensions with Appendectomy and Plastic 2—Suspensions with Plastic.
36—Multiple Uterine Fibroids						36—Supravaginal Hysterectomies
9—Complete Prolapse						9—Vaginal Hysterectomies with Plastic
2—Chronic Endometritis and Metritis						2—Complete Hysterectomies
Of the above:						In addition to the above hysterectomies, attention was given to all of the complications listed in opposite column, the operation in conformity with the pathology listed.
10—Bilateral Salpingo-oophoritis and Appendicitis						*One case died of acute nephritis on the tenth day; the second case of general peritonitis on the seventh day, and the third case of Embolism on the seventh day.
2—Bilateral Salpingo-oophoritis						
6—Unilateral Salpingo-oophoritis						
1—Unilateral Salpingo-oophoritis and Appendicitis						
1—Bil. Salpingo-oophoritis, Appendicitis and Hernia						
7—Bilateral Salpingitis and Appendicitis						
1—Unilateral Salpingitis						
1—Complete Tear						
1—Unilateral Oophoritis and Appendicitis						
5—Bilateral Salpingitis, Rt. Oophoritis and Appendicitis	47	5	4	44	*3	
MULTIPLE UTERINE MYOMATA:						
1—Appendicitis						1—Myomectomy and Appendectomy
1—Bilateral Salpingo-oophoritis — Appendicitis and Hernia						1—Myomectomy, Appendectomy, Bilateral Salpingo-oophorectomy and Hernioplasty
1—Bilateral Salpingitis; Prolapse with Retroversion; Appendicitis; Umbilical Hernia	3	—	—	3	—	1—Myomectomy, Bilateral Salpingectomy, Appendectomy, Suspension, Hernioplasty

DIAGNOSIS	Number of Cases	Completed or Aided with Local	Completed or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
OVARIAN CYST:						
3—Appendicitis	5	—	—	5	—	1—Excision of Cyst 1—Excision of Cyst and Appendectomy 1—Rt. Oophorectomy 1—Exc. of Cyst and Rt. Salpingectomy 1—Rt. Salpingo-oophorectomy and Appendectomy
ECTOPIC PREGNANCY:						
1—Acute Appendicitis	6	—	—	5	*1	1—Rt. Salpingo - oophorectomy 2—Salpingectomies and Appendectomies
1—Salpingitis and Appendicitis						Oophorectomy and Appendectomy.
1—Ovarian Abscess and Appendicitis						1—Bilateral Salpingectomy, Left Oophorectomy, Appendectomy.
1—Chronic Appendicitis						*Acute Nephritis the cause of death.
1—Bil. Salpingitis, Lt. Cystic Oophoritis—Appendicitis						
MISCELLANEOUS:						
1—Appendicitis and Chronic Cervicitis						1—Appendectomy and Cauterization
1—Eroded Cervix, P. O. Adhesions, Lt. Salpingo-oophoritis, Prolapse of Rt. Ovary						1—Liberation of Adhesions, Lt. Salpingo-oophorectomy, Rt. Oothecopexy, Hunner's Cauterization of Cervix
1—Retroperitoneal Sarcoma						1—Incision—no operation on account of profuse bleeding.
1—Papilloadenocystoma						4—Exploratory Laparotomies
1—Uterine Fibroid and Bilateral Salpingitis						1—Excision of Rt. Ovary
1—Suspected Malignancy						1—Appendectomy, Liberation of Adhesions
1—Dense Pelvic Adhesions						
1—Chr. Appendicitis with Adhesions.....	9	—	—	9	—	

DIAGNOSIS	Number of Cases	Emergency Operations	Completed or Aided with Local	Completed or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
INTESTINAL OBSTRUCTION							
1—Malignancy of Rectum and Ovary.....	17	10	3	3	7	*10	*One case of shock before operation; died within 24 hours.
3—Volvulus							One, 24 hours after operation—peritonitis.
1—Appendiceal Abscess (Localized)							One, shock on table during operation—died within 24 hours.
1—Intussusception and Subacute Appendicitis							One, shock before operation—12 hours.
1—Strangulated Rt. Femoral Hernia (one foot of gangrenous bowel exsected)							One died within 12 hours—paralytic ileus—shock before operation—enterostomy.
3—Paralytic Ileus							One died on the seventh day—bronchopneumonia.
7—Due to Adhesions only							One, malignancy of rectum and ovary—peritonitis, shock before operation—died on the 3rd day.

No matter what form of anesthesia is employed, the mortality will always be high in these cases because, due to toxemia, many are beyond hope by the time they reach the surgeon. Spinal should not be used in any case that entails desperate risk. Patients that are shocked, nearly pulseless, septic, cyanotic, collapsed, dis tended and dyspnoic should never have spinal.

DIAGNOSIS	Number of Cases	Emergency Operations Completed or Aided with Local	Completed or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
GUNSHOT & STAB WOUNDS OF ABDOMEN						
18—Gunshot Wounds	24	24	6	3	9	15
6—Stab Wounds						
A large percentage of these cases died within 24 hours after operation. Most authorities agree that spinal is contraindicated after injuries (gunshot wounds, stab wounds, etc.) or any condition associated with shock and loss of blood.						
GALL-BLADDER DISEASE						
2—Chronic Cholecystitis	14	*1	3	—	14	—
4—Chronic Cholecystitis with Lithiasis						
3—Chronic Cholecystitis with Appendicitis						
1—Subacute Cholecystitis with Appendicitis						
1—Acute Cholecystitis with Lithiasis						
1—Chronic Cholecystitis with Lithiasis and Appendicitis						
1—Empyema of Gall-Bladder with Cholelithiasis						
1—Empyema of Gall Bladder with Lithiasis and Appendicitis						
In six of the cases cholecystectomy was performed—eight cholecystostomies.						
PEPTIC ULCER						
2—Gastric, Ruptured	5	2	3	—	4	1
2—Gastric with Appendicitis						
1—Duodenal with Appendicitis						
NEPHROPATHY						
1—*Acute Nephritis with Anuria following Mercurial Poisoning	5	—	—	—	3	*2
2—Nephrolithiasis						
1—*Bilateral Pyonephrosis with Renal Calculus (Rt.)						
1—Tubercular Nephritis, Right						
1—Bilateral Decapsulation 2—Nephrolithotomy 1—Nephrectomy, Right 1—Nephrectomy, Right; Drainage						
MISCELLANEOUS						
1—*Ruptured Ulcer of Jejunum.....	14	4	—	—	9	*5
1—Meckel's Diverticulum with Appendicitis						
1—*General Carcinomatosis, with Pelvic Adhesions involving Intestines, causing Obstruction						
1—Vesical Calculus						
1—Cirrhosis of the Liver						
1—Carcinoma of Liver						
1—Rupture of Operative Wound						
2—P. O. Hemorrhages						
1—*General Peritonitis — Cause Undetermined						
2—Post-operative Adhesions						
1—*General Peritonitis with Extensive (general) Abdominal and Pelvic Adhesions						
1—*Tubercular Peritonitis						
1—Jejunectomy (about 6" of Jejunum Resected) End to End Anastomosis 1—Excision of Meckel's Diverticulum and Appendectomy 1—Enterostomy 1—Suprapubic Cystotomy for Removal of Vesical Calculus 6—Exploratory Laparotomies — two with drainage 1—Insertion of Bag in Suprapubic Wound to Check Hemorrhage 1—Packing to Control Hemorrhage 1—Secondary Closure of Operative Wound 1—Liberation of Adhesions						

DIAGNOSIS	Number of Cases	Emergency Operations	Cases Completed or Aided with Local	Cases Completed or Aided with Ether or Some Other General Anesthetic	Cured	Died	REMARKS
MISCELLANEOUS.							
HERNIA							
Inguinal: (Unilateral, Bilateral, Direct and Indirect	69	—	11	—	66	*3	*One of these deaths occurred on the third day—Acute Nephritis; one the fifth day—Chronic Nephritis and Myocarditis; the third on the nineteenth day—Embolism—Wound Infection with Sloughing.
1—Femoral Hernia							
1—Hydrocele							
2—Varicocele							
2—Undescended Testicle							
13—Appendicitis							
1—Undescended Testicle and Appendicitis							
1—Epididymitis and Hydrocele							
Incarcerated Inguinal Hernia	1	1	—	—	1	—	
Strangulated Inguinal Hernia.....	14	14	6	—	12	*2	*One death shortly after operation—cause given as Strangulated Inguinal Hernia. Second case: sudden death on seventh day. Post mortem: "Pulmonary Embolism."
Umbilical Hernia	2	—	—	—	2	—	*Three deaths, all within 48 hours, all massive resections of fat, omentum, etc., in one case excising 14½ feet of gangrenous bowel. One lobar pneumonia. **Died on operating table—Myocarditis.
1—Bilateral Cystic Oophoritis and Appendicitis							
*Strangulated Umbilical Hernia.....	4	4	1	—	1	*3	
*Incarcerated Umbilical Hernia.....	1	1	—	—	—	**	
1—Femoral Hernia	1	—	1	—	1	—	
1—Incarcerated Femoral Hernia.....	1	1	—	—	1	—	
1—Strangulated Femoral Hernia.....	1	1	1	—	1	—	
10—Post-operative Ventral Hernia.....	10	—	3	—	10	—	
TOTAL	104	22	23	—	95	9	

As will be noted, not a single death on careful analysis could be attributed to the anesthetic, *per se*.

METHOD OF APPLICATION.

In the above cases novocaine and apothesine have been used exclusively, doses ranging from 1¼ grs. to 2½ grs.

I am not going to bother you with details of the technic of spinal injection, as method is described in all standard text books; but it must be remembered that asepsis must be maintained at all costs. A small needle, the size 20 to 21 gauge, short bevelled point with a well-fitting stylet will

produce less trauma, and no injection should be given unless clear spinal fluid escapes freely from the needle. The injection is given between the eleventh and twelfth dorsal for upper abdominal work; first and second lumbar interspace for lower abdominal and operation on leg; operations on rectum and perineum, third and fourth lumbar. Height of the anesthesia will vary according to the specific gravity of the solution used, the force of the injection, the amount of fluid withdrawn and the decompression of the dura.

CONCLUSION.

It is my belief that many of the objections advanced in regards to the toxicity, large per cent of failures, post-operative sequelae, etc., are in a large measure unfounded, and while this method is not without its dangers, it has a large and important field of usefulness and the time is fast approaching when it will be sanctioned by the entire profession and employed by able surgeons in appropriate cases.

DISCUSSION.

Dr. J. A. Danna (New Orleans): I don't know of any paper on the program in which I am more interested than in this. In the days of chloroform I did a great many spinal anesthetics but they were all low spinal anesthetics, they were all in external urethrotomy, rectal work, hernia work and work below the waistline; in other words, work which could be reached by the lumbar puncture.

I have been very much interested in the last two or three years in the work of the members of the house staff at Charity Hospital who have been doing all kinds of abdominal work with high spinal anesthesia. I am sorry Dr. Graffagnino didn't have time to go into that. In high spinal anesthesia, I think it is between the first and second lumbar or eleventh and twelfth dorsal. I have seen some very remarkable results: You get absolutely complete relaxation, your patient sleeps throughout the whole procedure and never complains. I have seen them pack all kinds of sponges in the belly, doing the most difficult gall bladder operations, without any difficulty whatever.

However, I am reminded of the fact that we have had waves of enthusiasm for spinal anesthesia from time to time and I am just hoping that this time the wave is going to last, especially if we look into the subject with the serious intent that Dr. Graffagnino has and analyze the difficulties and the dangers as well as the advantages. His mention of Jonnesco especially reminds me that Jonnesco went all over the United States and he did punctures way up in the cervical and high dorsal region; but the number of fatalities in the cases done by Jonnesco himself in America at the time were such that nobody took the matter up.

Dr. Graffagnino mentioned a certain number of deaths. I would like to have him, if possible, tell us how many of those were anesthesia deaths and how many due to the condition for which the patient was operated on, because they were all serious conditions if I remember correctly.

I find that men who do spinal anesthesia and don't keep the head raised always talk about the shock that you get from spinal anesthesia, that those who do keep the head raised don't do that.

I can remember a year or two ago there was a good deal of spinal anesthesia being done at a certain large clinic and especially in their prostatic work. They put them in the Trendelenburg position and all you heard them talk about was what to do when the patient gets shocked and goes all to pieces, and someone was at the head of the table to give a particular hypodermic that you had to give for all these cases. Now at the Charity Hospital where they are not put in the Trendelenburg position they don't have these conditions of shock.

I am very much interested in this subject and if these boys can convince me that that procedure is as safe as low spinal anesthesia, of which I have done a great deal, I am going to adopt it myself; but I haven't got the information yet that will make me do it.

Dr. Emmett Irwin (New Orleans): There is no question, spinal anesthesia has a place in major surgery. The essayist has gone into the subject very fully and I can agree with him in every point brought out in his paper. Spinal anesthesia is a dangerous procedure and will carry its percent of mortality. There have been recently in New Orleans two deaths attributable directly to spinal anesthesia, both of whom died by respiratory failure within a very few minutes after the introduction of the anesthetic solution into the spinal canal. There have been one or two cases with bad post-operative results attributable to the solution. One is a boy of seventeen years of age who has an incontinence of *urine* and feces. In this case all laboratory tests have been negative.

There was another case of spinal syphilis who developed typical symptoms of a meningitis following spinal anesthesia; however, this one completely cleared up under antiluetic treatment.

The great disadvantage in spinal anesthesia is its unreliability. One cannot pick out the case in which it is certain anesthesia will be complete. It is impossible to tell how long the anesthesia is going to last. I have had the anesthesia last anywhere from seven minutes to three hours and a half, and I mean in the former case anesthesia was complete in the beginning and at the end of seven minutes from the induction of the anesthesia the patient experienced pain in the toes upon pinching the skin.

With reference to the level at which it is best to give your spinal injection, one can get an ascending anesthesia from a low puncture. We

had previously thought we did not get anesthesia above the level at which our fluid was injected, but I have had anesthesia including the innervation of the sixth cervical, from an injection of anesthetic solution into the second lumbar space. It is possible to do upper abdominal surgery by an injection into the second lumbar, and now I never go above the first lumbar. One can get splendid anesthesia for upper abdominal work by making the injection in the first lumbar space.

I have formerly done high spinals and had some very bad frights by injecting into the upper dorsal. Fortunately, no fatalities at all. Personally, I have not had any fatalities due to spinal anesthesia. The results have been very good but at the same time I have been always very cautious and have a great deal of respect for the procedure. I limit my working practice to all work below the belt. For everything between the belt to the diaphragm I prefer the splanchnic analgesia. It is more prolonged and with the splanchnic one will get anesthesia from two to four hours.

The chief dangers of spinal anesthesia Dr. Graffagnino has gone into very thoroughly. Let us remember the following types of cases as contra-indications, the cardiacs, the nephritis, spinal syphilis, the aged and asthenic, marked hypotension, those patients suffering from shock and hemorrhage, and diabetic gangrene. Local anesthesia should be used in these instead of the spinal.

I wish to congratulate Dr. Graffagnino on his splendid presentation of the subject.

Dr. Abraham Mattes (New Orleans): Since the introduction of spinal anesthesia in surgery in New Orleans by Dr. Rudolph Matas, the genito-urinary service has been the most consistent user of spinal analgesia in the United States. Spinal analgesia has been used continually, not intermittently, but continually in that particular service. Of late years, due to the wave of enthusiasm caused by the reports from other centers, surgeons have in increasing numbers used spinal in a number of cases and its use has increased to quite an extent.

There is a definite field of usefulness for spinal analgesia in surgery. It must be emphasized that the injection and the method is a highly technical one and unless the surgeon is courageous and can combat shock or any complication that may arise within the few moments following the injection, he should not use that method. You must be properly prepared and always prepared for any emergency that may arise. If you are not prepared or not courageous, leave the method alone.

The type of patient. It is particularly unfortunate for any one to attempt to give spinal to an

individual with a low blood pressure. They are all bad risks. They do very badly. A pressure below 120 is a bad risk.

With regard to the height of the analgesia. In a certain percentage of cases the height of the analgesia bears no relationship to the height of the injection. You may give a low spinal and get a high effect. Again, you may give a high spinal and get a low effect. In a small percentage of cases, running from five to ten, as Dr. Graffagnino has stated, the effect is poor, incomplete or nil. In these cases, it is the opinion of those working in the service of which I am a member, the drug used has become detoxicated by either the fluid or the spinal nerves or the spinal column itself. The drug is detoxicated and has no effect. We know it is in the canal.

Within the last six months there has been a number of unfortunate complications following in the wake of spinal anesthesia in the surgical service at Charity Hospital. We have never had a condition of affairs of such a nature in the past. That condition does not exist in our own service—by that I mean the genito-urinary service. Dr. Elder, who was to have discussed the paper, has on record six cases of myolitis, paralysis of the lower extremities following spinal anesthesia. They are all recovering. One, operated six months ago, is slowly recovering as a result of the spinal. In addition to that there has been four deaths as a result of paralysis of the bladder with complete urosepsis and death attributable entirely to spinal anesthesia. In addition to that, there have been a few bad bladders of the type that I have never yet seen that have recovered after two, three or four months of persistent treatment and a rather stormy convalescence. It has been my opinion, due to these bad results, that the operation on any area in the abdomen at or above the spinal center of urination and defecation will in a certain percentage of cases bring about an inhibition of these centers and result in a paresis which takes quite a time to return to the normal. And that is a word of warning. I don't know whether it is the trauma of operation or the manipulation that causes it.

Another thing in the present opinion of the house staff of Charity Hospital, that fulminating acute infections should not be handled with spinal. There is too great a relaxation of the abdominal viscera, with inhibition that lasts from a few hours to a few days. Instead of localizing an infection, it has a great tendency to spread.

Dr. E. M. Ellis (Crowley): I am very much interested in this work as I have done quite a little of it myself. I have been listening with some degree of interest to the few bad results

they are getting and I just wonder in case of bad results in your private practice if you would be liable to a damage suit.

Dr. E. K. Hirsch: I have had no experience with high spinal anesthesia but I would like to take exception to the remark that it is not advisable to use it in the aged. I think in urological practice where prostatic work is done altogether in the aged spinal anesthesia finds one of its greatest fields of usefulness, and in that particular respect we find also the same condition about statistics. We might have ill results from the spinal anesthesia in the aged. We have also many bad results from the general anesthetic indirectly in these prostatic cases. The recovery is much quicker in the spinal anesthesia. They are able to get out of bed very much earlier, and in these old, prostatic cases, I think protracted stay in bed is one of the greatest factors in high mortality.

Dr. Frank J. Chalaron (New Orleans): I agree with Dr. Hirsch and disagree with those who say that spinal anesthesia, especially the low form of anesthesia, is contra-indicated in the aged. I have selected that method in prostatectomies in very old men. I had occasion to do two prostatectomies in men who were over eighty years of age, and I selected the spinal anesthesia for the reason that both of them were suffering from a chronic bronchitis and that I feared the effect of a general anesthetic, and obtained the most beautiful result in both cases.

Answering what Dr. Mattes has spoken of, the cases of paralyses, I don't think that those cases are due to the anesthetic because the same conditions have occurred in using the Swift and Ellis method. I am frank to say, as I have stated once before in the discussion of the treatment of neurosyphilis, that the disastrous results I have obtained, such as almost complete paralysis of the bladder, have made me reserve the Swift and Ellis for special cases. I think the paralysis is due to trauma. I may be wrong. Somebody may go further and clear the point but that paralyses do occur in spinal injections irrespective of the anesthetic used is a fact.

Dr. Graffagnino (closing): First, let me thank you for your kind discussion.

I have endeavored to analyze all the deaths at the hospital; this includes the latter part of 1924 through 1925, nearly 700 cases; there was not a single death on careful analysis that could be attributed to the drug. That deaths have occurred

I do not question. That deaths are going to occur there is no doubt, but as Babcock has said, if you don't select your cases, expect a high death rate.

In regard to the technic, we make our injection between the eleventh and twelfth dorsal for abdominal operations, second and first lumbar for all operations that are limited to the perineum, the cervix or the bladder.

We use the finest needle that we possibly can introduce into the canal without any trauma, and we have found that a needle of a twenty-two to twenty-one gauge nickeloid is the proper one. Never inject a solution into the canal unless you get a free flow of spinal fluid. The extent of anesthesia will be in proportion to the amount of fluid that is withdrawn, the dosage of the medicine that you introduce and the force with which you give the injection. In other words, if you forcibly inject a certain amount of fluid you are going to have a more rapid diffusion with a high anesthesia.

Another important thing is, as soon as you make the injection allow the patient to remain in a recumbent position for five or six minutes, after that you can safely put them in the Tredelenburg position without any serious fall of blood pressure.

The amount of drug used: In the beginning we used from one and one-quarter grain to one and one-half grain and found that that was not sufficient to produce the required anesthesia for the length of time that the average gynecological operation requires. We have gradually increased the dose until today we are using routinely two grains of novocain or apothesine.

I am glad that Dr. Mattes brought out the serious complications that he has encountered because it is another warning that the method is not without its dangers. I think everybody who has had bad results should bring them out because we can do a whole lot of harm with any new method if the dangers are not realized before you undertake to use it.

Answering Dr. Ellis; in regard to the possibility of a lawsuit, I don't see why a new method that has been used in more than 200,000 cases, that is approved by the master surgical minds throughout the civilized world, should be more liable to lawsuit than any other form of anesthesia, when the proper supervision and precautions have been taken.

DIABETES AND TUBERCULOSIS.*

HENRY BOSWELL, M. D.,

Superintendent State Sanatorium,

SANITORIUM, MISS.

There has been a feeling on the part of the medical profession for many years that diabetes was a favorable forerunner of tuberculosis. As early as 1859 Griesinger reported 250 cases of diabetes with 42% showing tuberculosis, and Windle found 50% of 327 cases to have died with tuberculosis.

In more recent years investigations by others have led to a refutation of the figures of Griesinger and Windle as applicable to the general diabetic population. Charles Montgomery shows that there is no conclusive proof that tuberculosis is more common in diabetics than in the other population of like age periods. His findings were based on 355 autopsies collected from literature and 25 cases of his own since 1882, and 38.9% showed tuberculosis, most of which was the acute form. This, however, is not excessively high as compared with the prevalence of tuberculosis in the general population.

It is rarely, if ever found, that diabetes develops during the course of pulmonary tuberculosis, but on the other hand diabetes is the primary disease and tuberculosis the complication, often running a rapid course. This can be easily understood when the fact is taken into consideration that diabetes is a wasting disease and that the resistance of the individual is at a low ebb.

In our own experience of several thousand cases of tuberculosis we have never seen a case of glycosuria develop in one of our patients, but have had a total of three cases in the institution out of about two thousand who had tuberculosis complicating diabetes. This would indicate that tuberculosis is no more common in diabetics than the other population, that is,

granting that these two thousand cases represent a cross section of our citizenship.

TREATMENT.

The treatment of tuberculosis complicating diabetes is fairly favorable, when the treatment is directed to the primary disease rather than the complication. The dietary treatment should always be for diabetes rather than tuberculosis.

In our own cases, as soon as the carbohydrate tolerance could be established and the diet directed accordingly, two of the cases began a steady improvement and continued to an arrest of the tuberculous process. One was discharged from the institution four years ago and has been working steadily since in apparent good health. Number two, a lawyer, discharged three years ago, is following his professional work under our supervision as to hours of work, diet, etc., with no apparent ill effects and is to all appearances a healthy man. Number three developed insanity; was transferred to another institution where with the steady progress of the three diseases he soon succumbed.

The two first cases were treated by dieting alone. Number three was given insulin, in addition to the rigid diet and seemed to improve until the insanity developed, which made it impossible to treat the other two diseases.

The writer believes that insulin will make the road to success in the treatment of these diseases together much easier and will save the lives of many more provided that it is always remembered that all treatment should be directed from a dietary standpoint to the diabetic state, and that complete rest in fresh air will take care of the tuberculosis process.

CONCLUSIONS.

1. When diabetes and tuberculosis exist together, tuberculosis is invariably the complication.

2. Diabetes does not occur any more often in the tuberculous than in the other population of same age group.

*Read before Mississippi State Medical Association, Biloxi, May 11-13, 1926.

3. The chance for recovery is favorable as long as diabetes is treated first.

DISCUSSION.

Dr. W. W. Crawford (Hattiesburg): This has been certainly a very instructive symposium on a very important subject. It seems to me that diabetes is of ever-increasing importance. I know that personally I have seen more cases during the past four or five years than probably during any decade of my professional experience.

I was scheduled to open the discussion of the surgical paper, but Dr. Barksdale has so thoroughly covered every phase of diabetes that anything I might add would only prolong the discussion and be out of place. I am conscious of the fact that as surgeons we are approaching the surgical phase of diabetes with very much more satisfaction today than ever before because of the fact that we have learned to recognize that if you can get your diabetic—in case it is not an emergency like an acute appendix—if you can prepare your patient and get him sugar free—which can be done in 24 hours, or in two or three days at the most—then follow a conservative plan, not using alkalis exclusively but rather resorting to insulin—if you do this almost any sort of surgical procedure is practical. It is the custom in the clinics where so much of this work is being done, to administer insulin from the very beginning, and giving, as Dr. Barksdale has suggested, a carbohydrate-free diet at an early period. Insulin can be given in 10 to 20 minim doses immediately following, or in fact preceding the operation, provided you use it with glucose solution.

A very interesting thing has been brought out with reference to relief of diabetes by operation on the gall bladder. An article in the *Journal of the American Medical Association* reported a series of cases that were relieved of coincident conditions, and that relief was from surgery.

I would like to call your attention to radium in diabetes. Someone has recently called attention to the fact that the administration of radium in diabetes sometimes causes a disappearance of the diabetic symptoms. I want to say from recent personal experience that the administration of radium sometimes aggravates the condition, as in a patient of mine. I was dieting the patient; she required radium—she had been under treatment for an entire week and seemed to be in good shape, when two or three days after the administration of radium, intrauterine, despite the fact that we gave insulin, her blood sugar and the sugar in the urine ran up very rapidly.

THE TOXEMIA OF SCARLET FEVER.*

WITH SPECIAL REFERENCE TO THE EXPERIMENTALLY INDUCED NEPHRITIS.

CHARLES W. DUVAL, M. D.,
NEW ORLEANS.

More than thirty years ago a noted Italian investigator claimed an etiological role for the streptococcus in scarlet fever, and in the early part of this century Class of Chicago made a similar claim. However, neither of these authors, nor those who later attempted the confirmation of this earlier work, with the exception of Dicks, could offer convincing proof of a streptococcal relationship to the disease. It has, of course, always been traditionally held that the streptococcus played a secondary role in scarlet fever, but until quite recently no one regarded it as the primary and sole exciting cause. It remained for the Dicks to establish the real significance of the streptococcus in scarlatina.

Since the achievement of the Chicago investigators, which must be regarded as one of the greatest in American medicine, much has been accomplished to advance our knowledge of scarlet fever, especially as regards the prevention and cure of the disease. While a great deal is known of this interesting exanthematous infection which prior to the establishment of its cause was obscure, there still remains a number of features that are imperfectly understood. Problems are now before us whose solution will so improve our methods of diagnosis and treatment as to place this malady on the same basis, in these respects, with diphtheria.

Perhaps the two most important factors in scarlet fever infection that we stand in need of enlightenment upon are the toxemia and nephritis particularly the acute changes in the kidneys and their relation to chronic interstitial nephritis—otherwise known as Bright's disease. A clearer conception of

*Read before the Orleans Parish Medical Society, October 11, 1926.

the nature of the toxin and its effects upon the tissues is at this moment highly desirable if for no other reason than the production of a more potent antitoxin than the one now in use. In this connection I need only remind you that the scarlatinal antitoxin employed at the present time is not as efficacious as we would like it to be. Again we are to be reminded that scarlet fever develops in quite a percentage of humans that are negative to the "Dick test." The answer here will be clear when we know more of the real nature of the scarlatinal poison. Still another problem that faces us is the fact that young children immunize more readily with scarlatinal toxin than older children and adults, though the latter have never had scarlet fever. The solution here involves the question of streptococcal specificity in the causation of the disease, and the possible close biological relationship of all pathogenic streptococci for man. This raises still another question, namely that more than one variety of streptococcus may cause the clinical entity known as scarlet fever. It is possible, though improbable, that the streptococcus of erysipelas, acute inflammatory rheumatism, puerperal sepsis, and scarlatina are interchangeable in respect to the production of these various disease processes. We already possess the knowledge that more than one variety of the streptococcus species induces scarlet fever. The similarity in the pathology caused by various pathogenic streptococci is worthy of note in this connection, so also the fact that all streptococci are capable of causing a general as well as a local infection. Furthermore it is known that the active toxic principle of a number of these micro-organisms is an intracellular product, and indistinguishable by serological means of differentiation. These and other questions dealing with scarlet fever will be elucidated in the near future if the investigative spirit now in progress by students of the subject is any criterion.

The toxemia of scarlatina has been recognized for years by the physician as a

factor of paramount importance. In a general way it is held responsible for the multiplex pathology of the disease. However, its nature and origin has not been possible of understanding prior to the final and definite establishment of the causal excitant. Even today with the etiology of scarlet fever definitely known there is much that is not understood concerning the toxemia. For example, there are those who, recognizing the streptococcus as the cause, regard the toxemia as due to a soluble poison analagous in its nature and action to the toxin of diphtheria. The basis for this belief seems to lie in the fact that "blanching" of the "rash" occurs as a result of the cutaneous introduction of specific immune serum, and that antitoxin is a cure for the infection. Experimental work carried out in collaboration with my colleague, Dr. Hibbard, affords considerable evidence in support of the view that the essential toxemia in scarlet fever is caused by an endotoxic product of the streptococcus, and that there is no soluble poison extant at any time. It would seem that scarlet fever is commonly a localized infection which gives rise to two forms of toxemia, the one following in natural sequence upon the other. Both are endotoxic in character though differing in their manner of production, their action upon the tissues and their specific interaction with antitoxin.

In order to understand our explanation of the scarlatinal toxemia it is perhaps better to consider five stages of the disease. The primary toxemia occurs during the early stage and is due to the whole antigen of the infecting organism. The toxic action which it exerts upon the tissues of the host occasions the production of a specific lysin. This lysin in turn exerts a cleavage action upon the streptococcus, and in consequence there is liberated an endotoxic product. During this stage of the infection the patient becomes more toxic as a result of the action of the lysin-split endotoxin, thus there is established a second and new form of toxemia. The new toxic effects are most marked during the

second theoretical stage of the infection, and is responsible, we believe, for the "rash", nephritis, myocarditis, etc. There is no counteracting host-neutralizing substance present at the time of the early discharge of endotoxic product, which explains why this stage of the disease is the one of severest toxemia. In the course of this toxemic stage antiendotoxin is produced by the host, which in time establishes the real immunity to the disease. If we accept the endotoxic principle of the scarlatinal streptococcus as the agent responsible for both toxemias we can more readily understand the pathology of scarlet fever, particularly the late nephritis of the afebrile stage.

With regard to the experimental scarlatinal nephritis the significant lesion occurs in rabbits reacting to the intravenous injection of filtered streptococcal endotoxin. The kidney lesions are induced primarily in the glomeruli and completely correspond to those seen in human scarlet fever nephritis. Here it should be mentioned that the animal used is not susceptible of infection with the living streptococcus cultures. Furthermore we were unable to cause any toxic effects in the experimental animal with large doses of culture-filtrate (Dick's toxin).

The gross appearances of the affected rabbit kidneys varied from a slight cloudy condition to one in which the organs are much enlarged and often studded with minute hemorrhages. The petechiae in the cortex of the kidneys corresponds to the location of the glomeruli.

Microscopically the kidneys show an intense acute non-suppurative glomerulonephritis as the outstanding lesion. The glomerular changes range from a simple hyperaemia of the tuft capillaries to a marked congestion, serum extravasation and hemorrhage into the capsular spaces. In some instances the tuft is pushed to one side or partly crowded out of Bowman's capsule. Hyalin thrombi of the tuft vessel is also a frequently noted lesion. For some glomer-

uli the capillary whorl is partly or completely destroyed. In others, there occurs the epithelial proliferation which is characterized by the formation of the so-called "crescents".

Tubular changes while not an early feature of the experimentally induced nephritis are often in evidence where the corresponding glomeruli are markedly altered or destroyed. In these instances the epithelium is swollen, granular, and desquamated, much of which is loose in the lumen of the tubules as casts.

In conclusion it may be said that the results from our studies show that the active principle of scarlatinal streptococci is endotoxic in kind, and responsible for the toxemias of scarlet fever. There are two forms of the toxemia,—one, which may be termed "primary" and due to the whole streptococcal protein, the other, termed the "essential" caused by the lysin-liberated endotoxin. The endotoxin which occasions the second or essential toxemia, we believe, causes the "rash", nephritis, etc., of the disease.

Furthermore on the basis of our experimentations we can conclude that the pathology is primarily the result of the direct action of the lysin-split endotoxin. The experimentally induced glomerular lesions are analogous to those of scarlatinal nephritis in man.

The "blanching" of the "rash" in scarlet fever with intradermal injections of antitoxin may be explained through the neutralization of the endotoxin present in the cutaneous tissues. We regard the "rash" of scarlet fever as one produced by endotoxin acting upon the vaso-motor mechanism of the small cutaneous vessels, which result in their dilatation and subsequent leakage of contents to the surrounding tissues. Neutralization of the endotoxin removes the vaso-motor disturbing factor. The dilated vessels then return to their normal calibration and in consequence the erythema disappears.

Finally the view is no longer tenable that streptococci play only a secondary role in scarlet fever. We are fast coming to recognize a variety of streptococci as independent primary factors in the causation of the disease.

DISCUSSION.

Dr. John H. Musser: It is hard to discuss an essentially original work. If you know very much about the work yourself and have had experience with it, then it is not original.

This work of Dr. Duval's is, of course, extremely interesting. I might say that his preliminary report that was published in the *Proceedings of the Society for Experimental Biology and Medicine* has created a great deal of interest throughout the country. When I was East this summer there was much talk about Dr. Duval's findings. His findings have changed many of the ideas of scarlet fever. This statement applies particularly to the specific treatment which we recognize now and which has been clinically so successful. The serum is now available for use by any practitioner in the form of the Dochez serum, or the serum of Parke-Davis. As I understand, this serum of Dochez's is considered as an antitoxin. It is classed as such. Birkhaug has been working with an erysipelas streptococcal type and calls his particular serum an antitoxin. As I understand it from the work of Duval, this is an anti-endotoxin serum, orprolysin serum and is not in any sense an antitoxin as we understand from diphtheria work; it is not analogous to the antitoxin of diphtheria. The method of production that Dochez used in preparing his serum insures better results on account of these findings of yours (Dochez's serum is prepared by injection of an infected agar mass into the neck of the horse and allowed to stay there until the serum is produced. The Dicks use a filtrate from cultures). I cannot quite see how your work will agree with the method of preparation of the serum of the Dicks and would like you to explain that in closing the discussion.

I would like to ask also how long these several stages last that you describe. In scarlet fever we are dealing with an infection that is rapid. In other words, I presume that these divisions occupy periods of hours rather than periods of days. The second stage is the stage that persists for a comparatively short time and the first stage, as I understand, lasts a few hours.

Another question I would like to ask: Have you used any other organisms besides the streptococcus of scarlet fever in these animals into which

you have injected this lysate? Can these lesions not be produced by any other organisms?

I do want to say I appreciate very much indeed the almost epoch-making observation you have put before us tonight and to state that I think this piece of work is a great credit to you and to your co-workers.

Dr. I. I. Lemann: I would like to ask Dr. Duval if he proposed an improvement of Dochez's method of production of serum based upon his (Duval's) present report.

Dr. W. H. Harris: I had occasion about two years ago, when Dr. Duval started the work reported this evening, to be associated with him in the problem at that time. We did not undertake the experiments along the lines which Dr. Hibbard and he have later employed. We attempted to induce lesions in the lower animal by the injection of various types of streptococci and their filtrates such as the viridans, hemolyticus and the two strains from scarlet fever sent to us by Dr. Dick. We also used cultures of the typhoid bacillus and other organisms, as controls. We found that these injections were harmless to the animals inoculated with the exception of the typhoid injections which killed the animal. A letter from Dr. Dick at that time, stated that he also had been unsuccessful in his efforts to induce disease in the lower animals with his streptococcal strains. The work was suspended at that time and later Drs. Duval and Hibbard attacked the problem along the lines which Dr. Duval has described here tonight.

By employing the Pfeiffer method, they obtained from the peritoneal cavity of the rabbit a toxic filtrate which in sufficient dosage is fatal to the rabbit and produces toxic lesions in this animal. Among other lesions present they have been most interested in the kidneys, inasmuch as the importance of the injury produced in this structure through scarlet fever is already well recognized. A feature of one of the kidneys of their injected animals, which it was my privilege to see, was the apparent hemolysis present in the organ as shown by the purplish or laked blood aspect. This feature was further borne out by the large number of shadow red blood cells shown in the microscopic study. This occurrence would indicate the liberation in the animal's peritoneal cavity from which their bacteriolysate was procured, of the hemolytic principle of the scarlet fever streptococcus. It is quite likely, however, that this same factor could be demonstrated for any of the hemolytic streptococci. I do not think it is the intention of Dr. Duval to convey the impression that the streptococcus of scarlet fever is the only strain or only

organism that might produce by their method the lesions which they have described. In other words, I do not think that they regard the results as specific for the scarlet fever streptococcus. In this connection, we know that the Dicks describe two strains of their isolation, one fermenting mannite and the other not affecting it. In addition to this, other workers as Dochez and Eagles have shown the analogy of the toxic principles of the streptococcus of erysipelas and of scarlet fever.

I believe that Drs. Duval and Hibbard have added a valuable method in producing injury to the kidney through the employment of bacteria and their products in the manner described. Most of the experimental study of nephritis has been through the employment of chemical substances notably uranium rather than the biochemical substances pertinent to bacteria which the present workers have reported. Any work which will augment our facilities for the study of the important disease, nephritis, must of necessity form a valuable contribution to this field of scientific research.

Dr. L. R. DeBuys: I am sorry I was not here in time to hear Dr. Duval's paper. I do know, I believe, about the work that Dr. Duval has been doing from his other writings. There is some difference in the means by which he obtains his results and the Dicks and Dochez obtain theirs. We cannot question the results Dr. Duval has obtained in experimental animals. He seems to believe and indeed has sufficient evidence from his microscopical slides to show that the endotoxin idea is the right one. His experimental nephritis is extremely interesting. He has covered the ground so thoroughly that there is nothing to be added except to commend him upon his work.

The two infectious diseases, scarlet fever and diphtheria, have attracted much attention in the past decade, and in the latter disease rapid strides have been made in its prevention. In diphtheria we know that we can produce an immunity which is complete and which is supposed to be lifelong. It may be that the immunity primarily induced by the employment of the toxin antitoxin in itself may not be lifelong but is of sufficient duration so as to permit the individual to continue it by the usual contacts during his every day life and in that way enjoy the immunity indefinitely. This is the opinion also expressed by Zingher when I last spoke to him on this subject. The immunization against scarlet fever has not been so complete. Some investigators find that after immunization against this disease the individual may have some symptoms of scarlet fever that are modified in some way or the other; as for example a scarlet fever

with no skin eruption but there being present all the other evidences of the disease. They believe the immunity is possibly not complete—that is very likely so. If it has only given partial immunity and saves the individual the complications of the disease it has done a good thing.

If Dr. Duval's ideas are correct and apparently they are, the future of scarlet fever may be as easily controlled as is diphtheria at the present time.

Dr. John A. Lanford: There is nothing I wish to say with reference to the effects of the toxin of the scarlet fever streptococcus because it has been so thoroughly discussed. However, I do wish to accentuate the importance of the discovery brought out by the work of Dr. Duval; that is, the possibility of freeing the endotoxin of these organisms, liberating it in such a manner that it seems possible to produce an immune substance that will neutralize their effects.

It is a well known fact that certain micro-organisms, exemplified by the diphtheria bacillus and tetanus bacillus, in their growth produce a soluble toxin which can be used to inject animals, which animals develop such a powerful anti-toxic serum that it is used in the treatment and prevention of diphtheria and tetanus. But it is not possible in the present state of our knowledge to separate the poisonous element of the vast majority of micro-organisms which produce disease in men, such as the staphylococcus, b. typhosus, influenza bacillus and other micro-organisms including the streptococcus of scarlet fever. Therefore, if we can liberate the poisonous element of the bacteria which occur as endotoxins and immunize animals against this endotoxic substance, it might be possible to produce an immune serum of sufficient strength to be used in treating individuals with these several types of infections.

I feel therefore, that the work of Dr. Duval in developing such a method of endotoxin liberation has opened a new field of experimental research which has vast possibilities for the development of therapeutic agents for use in the treatment of most or all of those infectious organisms for which we now have no specific anti-serum.

Dr. L. von Meysenbug: From the point of view of prophylaxis Dr. Duval's work is of the utmost significance. We are beginning to think of scarlet fever in the same terms as diphtheria, immunizing exposed persons with preventive doses of scarlet fever anti-toxin. If, however, Dr. Duval's contention is correct that the toxin of scarlet fever is an endo-toxin and is not liberated until what he designates as the third stage of the disease, then we can readily see that anti-toxin, given before this third stage, will have no effect in preventing the disease.

It seems, therefore, that this work is of far more than academic interest to the internist, for once the endotoxic theory becomes an established fact, our whole management of the scarlet fever problem will have to be revolutionized. It will not only be useless to give scarlet fever antitoxin prophylactically, but it will actually be a dangerous procedure, for it may sensitize the individual to serum and the serum will not protect him, a subsequent necessary therapeutic dose may lead to severe anaphylactic reaction.

Dr. Allan Eustis: Dr. Harris mentioned the fact that Dr. Duval's work has a distinct bearing on clinical medicine. I would like to ask Dr. Duval if in his opinion the pathological changes found in the kidney are due to the direct irritating effect of the endotoxins in the effort of the kidneys to excrete these substances from the blood. I judge from his paper that such is his opinion, and if so, then the practice followed by some clinicians in restricting fluids in the acute nephritis of scarlet fever, is illogical. It seems rational to suppose that the more diluted the solution of the toxins the less manifest will the toxic effect be, so that forced liquids which correspond with my clinical experience, are clearly indicated in the early stages of scarlet fever.

Dr. Duval (in closing): In answer to Dr. De Buys: There cannot possibly be any difference of opinion regarding the work reported tonight on the experimental production of scarlatinal nephritis. As far as I know we are the first to produce in the lower animal a glomerulonephritis with the active principle of the scarlatinal streptococcus which corresponds in all essential respects to the nephritis of the human disease. Certainly Dicks and Dochez have not reported the results of any work of this character. To answer the question why young children are more easily immunized with the toxin of scarlet fever than older children and adults who have not had scarlet fever, I would think that the most likely explanation is that the hemolytic varieties of streptococci are closely related biologically. The older children and adults have already acquired an immunity because of their having had at some period a streptococcal infection. In this connection I need only mention how common are streptococcal sore throats in early and adolescent life.

In reply to Dr. Musser: We are now attempting to induce nephritis in the rabbit with the active toxic principle of a number of micro-organismal species, particularly the members of the streptococcal group which are non-hemolytic and not known to cause scarlet fever. The work has not progressed far enough for me to express an opinion at this time.

In answer to Dr. Lemann: It is my belief that a more potent antitoxic serum will be possible

of artificial production with the use of the endotoxic principle of scarlatinal streptococcus. While the Dicks and Dochez scarlatinal sera are efficacious from the standpoint of neutralization of specific toxin, they are not comparable in this respect to the immune serum for diphtheria. I am of the opinion that the difference is to be explained on the ground that the antigen used by Dicks and Dochez is primarily a stimulator of lytic antibody, while the antigen employed in diphtheria is solely an excitant of antitoxin. The so-called endotoxic principle of the scarlatinal streptococcus prepared in the belly cavity of the immune animal (Duval and Hibbard method) supplies us with an anti-endotoxin stimulating antigen.

In reply to Dr. Eustis: The experimentally induced glomerulo-nephritis has followed the intravenous injection of streptococcal lysate. The injection of living or killed cultures of streptococci has not given rise to lesions of any kind in the kidney. We feel sure that the nephritis of human scarlet fever is the result of toxin action and not to the presence in the kidney of the living streptococcus.

DIAGNOSIS OF FOREIGN BODIES IN THE LUNG.

F. E. LeJEUNE, M. D.,

NEW ORLEANS.

Everyone has experienced the discomfort of having a drop of water or a crumb of bread "go down the wrong way." This often occurs without any evident reason and is always followed by violent coughing and choking. An object held in the mouth may pass into the larynx with equal ease. The usual history is that with an object in the mouth an attempt is made to speak, laugh, cough or the patient is startled. The inspiration which follows is usually a strong one and the object is drawn into the larynx. McCrae further states that these foreign bodies travel downward in the air passages and may lodge in the bronchi depending upon their size and shape. There may be great variation in the immediate symptoms, depending naturally upon the character and size of the object. Many

*Read before Mississippi State Medical Association, Jackson, May 11-13, 1926.

cases show considerable distress with choking and coughing which gradually lessens in severity; however, if the object remains in the larynx or trachea there may be extreme distress or severe dyspnea. These acute symptoms which accompany the aspiration of a foreign body are frequently of short duration, and following this we frequently have the symptomless period, during which all signs are lacking or are so slight that they do not attract attention. This symptomless period is very deceptive and has often been responsible for errors in diagnosis.

Foreign bodies in the larynx and trachea do not usually present great difficulty in diagnosis. This is particularly true for objects lodged in the larynx, either between or above the vocal cords. These produce violent symptoms followed by a croupy cough accompanied with pain. The hoarseness gradually increases until aphonia is present. One of the most common types of foreign bodies found in this location is the sand-spur. Taylor has written an excellent article on this type of offender, while Lynch reports the removal under suspension of a triangular shaped piece of glass from the ventricle of the larynx which had been in situ for nearly a year. Hoarseness and pain, the predominating symptoms, disappeared shortly afterwards.

Objects lodged in the trachea produce violent symptoms, depending again upon size and shape. The upward and downward excursions of the foreign bodies produce a sub-glottic swelling from trauma together with a tracheo-bronchitis of more or less marked severity. Dyspnea is usually marked and increases with the sub-glottic swelling. Dependent upon the amount of obstruction, cyanosis may or may not be present. If the foreign body is movable, cough is usually accentuated, and a phenomena of great importance is the sudden closing off of the expired air. In addition to this, we frequently hear the tracheal click produced by the foreign body striking the under surface of the vocal cords. A loud wheeze is usually present, differing slightly

from the wheezing sounds of bronchial asthma, being higher pitched and more intense. This has been given the name of "asthmatoïd wheeze" by Jackson, and it may be heard both on inspiration and expiration. Examination of the thorax reveals little except on auscultation. The breath sounds are usually harsh and loud and greatly accentuated over the trachea. The occurrence of the wheeze, the hearing of the click, together with auscultation, are pathognomonic. The sub-glottic edema produces hoarseness and a croupy cough simulating diphtheria. I should like to take this opportunity to report briefly a very interesting case of diphtheria complicated by the presence of a foreign body in the trachea. A child of fifteen months, with suspicious history of foreign body, developed diphtheria as shown by positive cultures. Antitoxin was administered and the membrane gradually disappeared. The child had croupy cough, labored respiration and a typical asthmatoïd wheeze. Bronchoscopy was performed as soon as conditions permitted and piece of charcoal was removed from trachea. Recovery was uneventful. I think this is one of the few cases where both these conditions occurred simultaneously.

Anatomists inform us that the left bronchus bifurcates from the trachea at an angle of approximately 70 degrees—while the right bronchus is not only the larger but is given off at an angle of 25 degrees. We can therefore appreciate why two-thirds of all foreign bodies lodge in the right bronchus. The size and shape of the foreign body influences the location and degree of obstruction produced, while the character of the foreign body warns us how much reaction to expect. Metallic objects cause less irritation than those belonging to the vegetable kingdom. These organic substances produce very acute symptoms which endanger life from toxemia and septic infection. By far the most toxic of this group is the peanut. This offender produces a marked inflammatory

reaction in a very short time and McCrae states the younger the child the more acute the symptoms. Purulent secretion forms rapidly, toxemia is evident and temperature is high. Dyspnea, restlessness, rapid pulse and respiration complete the picture. To this profound type of reaction Jackson and Spencer have given the name of "arachidic bronchitis."

The accurate determination of a foreign body in the bronchi presents greater problems than those lodged in the larynx and trachea. The signs of diagnostic importance for foreign bodies lodged in the bronchi are chiefly those of partial or complete bronchial obstruction. In either event, the involved area shows limitation of movement, absence of vocal fremitus, breath sounds and rales. There is dullness on percussion and in cases of partial obstruction we will find diminished intensity of breath sounds distal to the foreign body. If air is allowed to enter the bronchus on inspiration but escape is blocked off by contraction of bronchus around foreign body, we will have produced an obstructive emphysema. The percussion note would be hyper-resonant or tympanic in quality and vocal fremitus and breath sounds absent.

The Roentgen ray is undoubtedly the biggest single aid at our command in the diagnosis of foreign bodies. We are indebted to Manges for his extensive study of the diagnosis of non-opaque objects in the lung. This is done by carefully studying the changes in the tissue, particularly if air enters the lung but cannot escape, thus producing an obstructive emphysema on one side and a compensatory emphysema on the other. According to McCrae, the signs of acute unilateral emphysema are: 1. Greater transparency of affected side due to larger amount of contained air. 2. Displacement of heart and mediastinal structures to opposite side. 3. Compensatory emphysema on unaffected side. 4. Depressed and partial fixation of diaphragm on affected side.

The recent advance in the development of pneumography by the introduction of lipiodol solution into the bronchi will certainly be of value to the bronchoscopist in localizing foreign bodies or diagnosing bronchiectasis. Foreign body cases of long standing have frequently been diagnosed as tuberculosis in spite of negative sputum examinations, while acute cases have often been called pneumonia or diphtheria.

The differential diagnosis of roentgenograms of tracheal and esophageal foreign bodies occasionally presents some difficulty. We must bear in mind the anatomy of the structures involved. The trachea is an open tube closed antero-laterally by the tracheal rings and posteriorly by membranous wall. On account of the structure of the larynx, disc-shaped foreign bodies enter antero-posteriorly and assume a position in the sagittal plane. A disc entering the oesophagus must pass flat-wise behind the larynx and assume a flattened position in the lateral plane.

A fuller appreciation of the history, signs and symptoms will facilitate the recognition of the unusual cases and assist in the differential diagnosis of pneumonia, diphtheria, empyema and tuberculosis which are so often confounded with foreign bodies in the air passages.

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DISCUSSION.

Dr. E. F. Howard: This is very real stuff we can all take home with us. I was especially interested in what Doctor LeJeune had to say about small non-opaque things getting into the bronchi. If we have anything in the upper air passages it generally points to the diagnosis; when we have a bit of metal in a bronchus the X-ray man can help us out on it generally, but when it comes to the non-opaque stuff we are up against a real proposition. I recall with a great deal of interest a small piece of chicken gizzard, or turkey gizzard, I don't remember which it was, but it was gizzard, and it got down into the right of the lung. There was a period of quiescence, and that always blurs the picture. The family and the patient himself forgot about the little initial attack. I think probably this piece of chicken gizzard might have caused some pretty serious complications, but for the fact that the patient was kind enough to get it up himself, and he got it up into a cup, retrieved it and recognized it, and then his mind went back over what he had been through a few days before. He fitted the whole story together himself, and was able to demonstrate the fact that it was gizzard to the people around, and his remarks concerning the physicians who had been attending to the case for forty-eight hours were neither charitable nor kind. We can save ourselves a great deal of trouble of this sort if we will keep before us the clear word picture that Doctor LeJeune has drawn of that particular type of cases. It will help us a lot.

Dr. Ross E. Anderson (Jackson): I should not rise to discuss this paper, except as a mark of respect to my friend and teacher, Doctor LeJeune. I do not want him to think that I myself claim to know anything about foreign bodies in the lungs, and yet I had occasion to work in the Eye, Ear, Nose and Throat Hospital in New Orleans where Dr. LeJeune and Dr. Lynch worked, and of course I naturally learned a little about it, and had occasion to see quite a bit of bronchoscopy and esophagoscopy. I recall one case during the past winter—I am sure Dr. LeJeune will recall the same case—of a small child, about five years old that was brought in; I do not recall just what symptoms it had, but it was wheezing, had a little fever, had lost weight and was anemic; they sus-

pected it might have something in its lungs. The X-ray did not show anything. That was one case where the X-ray did not make the diagnosis. Dr. LeJeune later passed the bronchoscope and removed a watermelon seed from the child's left bronchus. It was found that the watermelon seed had been here ever since last summer. The child made a quick recovery.

I recall another case of a foreign body in the esophagus, to digress a little bit, where the X-ray did not show a large button which Dr. LeJeune later removed after passing the esophagoscope. The point that I am trying to make in both of these cases is this: that the X-ray does not always show these foreign bodies. I enjoyed this paper very much.

Dr. L. S. Gaudet: Doctor LeJeune has given us a very valuable paper. But bronchoscopy has gotten to be such an exact science, we not only use the bronchoscope for the removal of foreign bodies, but we use it for diagnostic purposes. It is not only used for the removal of foreign bodies and in making diagnosis, but in treatment of lung abscesses. I worked under Doctor Lynch several years ago, and with Doctor LeJeune, and we had some very remarkable cases. As the Doctor just stated a while ago, every now and then a case would come that would really present some obstacle more than the past and it would be of much more interest. To my mind, bronchoscopy has gotten to the point where more of us ought to use it. One of my confreres at Natchez some time back had a case of an old gentleman who occasionally would spit blood. That case came to me, and I would have been very glad to have done a bronchoscopy to find out where that blood was coming from, and the cause of it. I afterwards learned that he had cancer of the lung. Probably if we could have made a diagnosis earlier we could have done something for the patient.

Dr. George E. Adkins: May I add just a little bit from the standpoint of the X-ray? Most of these eye, ear, nose and throat men, when they get a little time, play golf; and I have a habit of playing with the X-ray. I spend about half of my time playing with it; and I find there is a way you can make a diagnosis complete with the X-ray. You can't do it every time with the Roentgen Ray. It should be done both ways. If you have a picture it will show any opaque substance. In other words, put your case under the Fluoroscope and watch it, and you will get restricted lung movements, and if you will watch for the things the doctor has outlined, and especially the expansion and contraction of the lung, you are pretty apt to locate any kind of body. There is a place in there filling up just as equal with the

other lung, but it doesn't contract; it is the last part to contract. The radiograph will not do this: The X-ray will rule out the other inflammatory conditions of the lung you may be confused with; it will rule out the malignant type; it will rule out your pneumonia; and you can rule out your possible lung abscesses, etc. You can do a lot towards making the diagnosis of that foreign body if you will go both ways.

Doctor LeJeune mentioned restriction of the diaphragm. I have gone over that pretty thoroughly, and I find nearly any inflammation in the abdomen or in the lung will restrict the movements of the diaphragm.

Dr. Fairfax: I want to thank Dr. LeJeune for bringing this paper, and I want to confirm what he says about the danger of peanut hulls. I had the misfortune to have a patient three years old, and I diagnosed it as broncho-pneumonia, and finally after about six months it developed an abscess of the lung. That was sixteen or eighteen years ago, and at that time they had not learned the use of the bronchoscope or X-ray so well; and we opened up this abscess and found a piece of peanut hull in the lung abscess cavity. It doesn't always show up right away, but may give trouble several months afterwards.

Chairman McWilliams: I was told this morning of a headache that comes on after a hemorrhage. I have had another experience which gave a worse headache than I ever had following tonsil headache. I had a patient about a year ago on whom I was going to do an ethmoid and sphenoid on the right side. When I went to remove the middle turbinate, I used scissors to cut it off partially, and when I snared off the middle turbinate I reached around to get the forceps to get out the middle turbinate, and it was gone. I asked him to spit it out, and he said there is nothing there. It was gone. I looked for that middle turbinate everywhere; but I kept worrying about that middle turbinate, and wondered where it could be, because it was a large middle turbinate and could not be lodged in the nares without being visible. Anyway, the patient got along all right until the next day. About twenty-four hours afterwards he had a violent coughing spell and pain in the right side. The patient was asthmatic—had always had asthma on the right side of his chest, and there was dullness and all the symptoms of a lung abscess. The X-ray was negative for any foreign body, but showed old scars in his lungs, supposed to have been an old healed T. B. and on account of that, this side of his chest was very much larger than the other. I got his family physician to come down, and Henry Boswell to come, and they all agreed that it was localized, not an abscess; they didn't know what

it was, but said it was not a foreign body in his lungs. In a way, that made me feel better, but still I was sure there was something—that middle turbinate was somewhere. We examined his stools, and did everything, except bronchoscope. But after a week his temperature was normal and he stopped coughing, for several years he had had violent spells of coughing with his asthma; he still had those violent coughing spells until about two months after the operation, he began to cough out that middle turbinate. That certainly was a pretty sight to see that middle turbinate. I was glad my diagnosis was confirmed. Since that I have never snared a middle turbinate off without catching hold of it; I wouldn't risk another snared off without having hold of it for anything. I have had one or two to swallow them, but I don't think I will ever have another case to even swallow a middle turbinate.

Dr. F. E. LeJeune: I should like to emphasize the importance of taking a complete history from the very outset of all cases. A complete history is very important in all suspected foreign body cases. I should also like to emphasize the importance of going over your patient's chest thoroughly and repeatedly, not once or twice, but go over the chest until you can find all your symptoms and signs that might indicate you have a foreign body present. I believe any patient who presents himself with a suspicious history of a foreign body in the lungs should be given the benefit of a bronchoscopy. Bronchoscopy is not attended with any danger, provided it is done properly and carefully.

I should again like to call your attention to the development of pneumography, such as Doctor Iglauer mentioned at the Southern Medical Association last week. He is doing wonderful work along these lines. I think that will mean a big thing to us later on in our diagnosis of lung conditions, be it bronchiectasis or non-opaque foreign bodies.

I should also like to mention one of the newer foreign bodies that has been described by Roland in the *Journal of the Diseases of Children*. He mentioned two or three cases of the aspiration of baby powders. Children had been given boxes of powder to play with, and somehow or other the box had come open and they aspirated these powders. One case in particular the child smothered to death before anything could be done.

About the X-ray pictures—it is not every radiologist who can take a picture, according to what Manges says, showing the presence of a non-opaque body. The picture must be taken at the end of the expiration, and unless the radiologist knows this he cannot take a very good picture. I thank you for the discussion of my paper.

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The Religion that is afraid of science dishonors God and commits suicide.—Emerson.

DR. KELLS HONORED.

The evening of Wednesday, January 19 past, marked an epoch in the medical history of New Orleans. On that date, under the auspices of the First and Second Districts Dental Society, the Orleans Parish Medical Society and the Tulane University of Louisiana, organized dentistry and medicine paid tribute to Dr. C. Edmund Kells in appreciation of his fifty years of valiant services in the interest of advancing the literature and science of dentistry. It was a most fitting moment for Tulane, represented by Dr. A. B. Dinwiddie, president of the university, to confer upon so

noted a man as Dr. Kells the degree of Doctor of Laws—an honor that has come to few, among those in the past being Woodrow Wilson, Marconi and Marshal Foch.

Among the speakers on the occasion to laud the many advances to dental and radiological science made by Dr. Kells were, besides President Dinwiddie who presided, Dr. Rudolph Matas for the medical profession, General Allison Owen for the civic organizations of New Orleans, Mr. George Denegre for the public, and Dr. S. H. McAfee for the dental profession. Standing upon the rostrum and facing the packed amphitheatre of the Hutchinson Memorial Building, the heroic figure of Dr. Kells, with one empty sleeve in mute testimony of the arm he has sacrificed in the interest of advancing our knowledge of the x-ray in dental surgery, made a picture that will not be soon forgotten. This is truly a wonderful age in which the world pays tribute to its pioneers of science while they are living instead of waiting until they are dead.

To Dr. Kells is given the credit of being the first to use the x-ray in dental diagnosis. For his original investigations with the x-ray in dentistry he received the Jarvie Fellowship and gold medal, the highest honor the dental profession of America can bestow. Last October the Odontographic Society of Chicago summoned Dr. Kells to celebrate his seventieth birthday in their midst and a sumptuous banquet at the La Salle served to demonstrate with what high esteem they held this master in his field of research.

His contributions to dental literature are as equally well known as his works in dental x-ray research. He is the author of "The Dentist's Own Book"; "Three Score Years and Nine"; and is contributor of three chapters to "Johnson's Textbook on Operative Dentistry." He has written over a hundred scientific papers on the various phases of dental science.

His inventive genius has been ever a wonderment to his friends and associates. Over thirty of his inventions have been patented, one of much interest and value to the medical profession is the Kells electro-motor suction apparatus for the aspiration of fluids in surgical operations, and which has been adopted, at least in principle throughout the world.

Dr. Kells was born in New Orleans October 21, 1856, the son of a dentist—Dr. Charles Edmund Kells. He was educated in the public schools of his native city and those of Keene, New Hampshire. He received his degree of D. D. S. from the New York Dental College in 1878.



DR. C. EDMUND KELLS

The friends of Dr. Kells will assemble a dental library and museum at Tulane which will bear his name. Contributions of anything pertaining to dentistry are desired: books, journals—old and new—instruments, specimens, etc. For the present the library and museum will be housed in the Science building on the Campus and President Dinwiddie has promised to increase the space as needed. All desiring to make donations of any nature may communicate with Dr. Kells, Dr. Grosjean or Dr. McAfee.

DECENT ADVERTISING.

Do you believe in honest advertising? Or, in your opinion, is honesty only a

means to an end when others fail to achieve results? These are momentous questions because a company or an individual, regardless of the commodities both have for sale, utilize the advertisement method in order to further their personal interests. The advertisement is a mouthpiece which uses the picture or the printed word to instruct the public. And there may be much incorrect and misleading information craftily concealed in the flowery verbiage of an advertisement.

The principles of psychology are embodied in the adroit advertisement. Pick up any newspaper, popular magazine or medical journal and read over the advertisements one after another. Analyze them and see what they convey, and what impression they make on you. If you stop to think, and to criticise, you will note that the overwhelming majority have a sensational appeal that is not justified by the content. The main ideas which the advertisement aims to implant in the reader's mind are, first, superiority, second, infallibility, and third, necessity. You are told that you need a never failing product which has no peer in its line.

How much of the impression conveyed in this subtle way is true and how much is false? All is true, if you are one of the uncritical myriads of "suckers" said to be born every minute. Indeed it is often

difficult even for one who is "hard boiled" to sift the true from the false; usually the truth is only forthcoming after due trial and strict examination. At the same time the wise and sophisticated ones will observe certain ear marks of the professional advertisement writer that invariably crop out and which he seems unable to avoid. They are such palpable exaggerations that one often wonders how people are led astray by them. But the fact remains that the overwhelming mass of humanity consistently fall for sensational sob stuff.

As an example, we wish to allude to an advertisement of this nature which recently appeared in one of our most esteemed daily newspapers. We feel sure that the publisher and editor were misinformed regarding the potential danger to the public embodied in this advertisement. It consisted of one whole page devoted to the sensational claim of a "long distance" artist in medical quackery. This man, who though a regularly graduated physician, has so far departed from the ideals of the profession in his lurid chase after the dollar that he lends his face, or what purports to be his face, and his name to a nefarious business. His activities were the subject of investigation by Samuel Hopkins Adams twenty years ago and they received their just appraisal in Adams' famous exposure of the nostrum and quack evil in *Collier's Weekly*.

Now he or his heirs bob up in a new role, which so far as we can judge, is no more worthy of decent people's regard than was that which attracted the attention of Adams. The merry old game of gulling the public still blooms like a hardy perennial, only shedding its leaves in times of storm and stress to appear once more with new foliage when things quiet down.

To what does this capitalization of human frailty lead? It leads to dishonest, misleading, fraudulent advertising, such as we see in our newspapers and journals

every day of the year. And there is no more lucrative field for the "get rich quick" gentry than the sufferings of mankind. To some people the promise to cure or relieve an ailment before which scientific and rational therapeutics is powerless is like the proverbial straw; they are the fish drawn into the net of the patent and proprietary medicine man. This advertising is pernicious, dishonest and criminal; and do not make the mistake of thinking that such means to "work" the public are not in full swing and swelling dividends. Walk into any drug store and look at the fancy labeled products which provide bulk and lend tone to the druggist's shelves; the real things are hidden—behind the prescription counter. The wrappers of the patent and proprietary medicine cartons are so colored and worded that few can resist the appeal to both eye and fancy. This is a form of dishonest advertising which the druggist claims he deplors, but which he cannot do without because the public "demands" the patents and—because they help the proprietor to meet the overhead.

Reflect on another phase of, we will not say dishonest, advertising, but one which, while regarded as legitimate, often verges on doubtful ethics. We refer to circularizing of physicians by firms, good, bad and indifferent. The plea is that this is the only way to get a really good thing before the profession. These concerns know or possibly are indifferent to the fact that many doctors but infrequently read the critiques of the American Medical Association's Council which passes on advertised mixtures and drugs, natural or synthetic. Anyhow they are safe in giving the credulous medico a fling, and they usually get by with it for a while. How many really worth while remedies are placed before the profession in this manner? It is safe to say that 95% of them only lead to disappointment when they are tried out in an emergency. Then too, many of them are only fancy names for more prosaic mixtures of the National

Formulary. Is it legitimate advertising to influence the medical profession into experimenting while at the same time paying the drug house for the doubtful honor? We'll say it is not, but for the present it seems to be part of the game.

Advertising is necessary for any business or profession. There are no higher standards adopted and in the main adhered to than those of the medical profession. But there is no evading the conclusion that it knowingly or unconsciously plays into the hands of those whose calling in life is to sell; whether or not the goods are delivered is a matter of indifference. There should be a more concerted stand taken against the fraudulent, misleading and frankly dishonest advertisements continually appearing in print and on packages. And no better organization than the Propaganda for Reform Department of the American Medical Association could be taken as a model.

METRIC URGERS LAUNCH NATION-WIDE CAMPAIGN.

With the beginning of 1927, advocates of decimal metric weights and measures for the United States have organized for an energetic campaign. At its recent annual convention in Philadelphia, the Metric Association outlined plans for greatly increased activity.

The All-America Standard Council, with headquarters in San Francisco and Washington, D. C., is urging prompt legislative action by Congress, establishing the decimal metric units for general use in merchandising throughout the United States after 1935. Its executive announces that metric standardization is urged by Thomas A. Edison, John Hays Hammond, Samuel Vaucrain, John J. Pershing, Theodore Roosevelt, Franklin D. Roosevelt, Arthur Capper, E. N. Hurley, William G. McAdoo, Roger Babson and many others eminent in national affairs.

Led by such influential groups as the New Orleans Association of Commerce and the Washington Manufacturers' Association, more than 300 important chambers of commerce and industrial organizations are urging liberal metric legislation.

Among other important organizations advocating the metric adoption are the National Wholesale Grocers' Association, American Institute of Architects, National Wholesale Druggists' Association, Associated General Contractors of America, American Institute of Architects, National Congress of Mothers and Parent-Teachers' Associations, Institute of Radio Engineers and the National Research Council.

More than 100,000 petitions urging metric legislation have been placed before Congress, and as many of these are from large organizations, altogether they represent several million voters. The States of Illinois, California, Tennessee, North Dakota and Utah are among those which through their legislatures have petitioned Congress to adopt the metric standards for all the people.

The great Pan-American Standardization Conference, to be held in the United States during 1927, is expected to emphasize the need for the world-uniform decimal metric measures in commerce. All the American republics except the United States are already on the metric basis in merchandizing.

CORRESPONDENCE.

Vivian, La., February 10th, 1927.

Editor, New Orleans Medical and Surgical Journal, New Orleans, Louisiana:

Dear Sir: I read with interest, in the February number of the *Journal* a letter from Dr. Guy A. Caldwell of Shreveport, Louisiana, in which he emphasized the fact that the community is not being rendered prompt and efficient medical service; that the sick are dying in great numbers for the want of good diagnosticians, competent general practitioners who can recognize danger signals when they meet them and who have the vision and courage to take hold of cases who need prompt relief and get them to a hospital

without delay, where medical and surgical measures can be administered.

Dr. Caldwell's criticism is constructive and I hope it has awakened a response in the life of every general practitioner, as it has in mine. I am doing general practice in a town of two thousand people and know the task of a busy practitioner, caring for the sick scattered over an area of 20 or more miles square, and at the same time trying to keep abreast with the advance of scientific medicine.

How to be a good diagnostician. How to be alive, keen and alert, ready and capable of giving prompt relief or directing our patients where relief can be had, is the task of every general practitioner. Many of us fail to measure up to this requirement. Why this deficiency and how to correct it is the question emphasized by Dr. Caldwell. We all agree that education is the remedy. A constructive educational program should be arranged and systematically pursued. Dr. Caldwell seems to think the journal by publishing articles on live, practical subjects, would be the best means of education. This is good so far as it goes, but the practitioner who needs it most would not be benefited because he does not read his medical journals. Something must be done to stimulate him to read more before he can be helped. I think the local and district societies are the best means of bringing about this education. Their programs should be made to appeal to the general practitioner. They should be full of life on practical subjects. Personal work should be done to induce the general practitioner to attend these meetings. When he becomes interested he will subscribe for more medical journals and eagerly read them. Caddo Parish has a large medical society, well attended by men doing special work, but the general practitioner throughout the parish who needs it most, seldom attends.

Let the work begin at home. Let the local and district societies get busy and give the general practitioner a program that is helpful to him in his busy life and soon we will have better attended meetings, a better informed profession, and fewer lives will be lost.

H. B. WREN, M. D.

TISSUE DIAGNOSIS IN THE OPERATING ROOM.

And Immediate Cover-slip Examinations of all Fluids and Pus.

Baltimore, February 3, 1927.

To the Editor:

I will consider it a courtesy if you will publish this letter in your journal, as I am anxious to

come in correspondence with pathologists and surgeons interested in the immediate examination, by frozen section, of tissue in the operating room and the immediate cover-slip studies of smears from all fluids and pus.

Microscopic examination of stained frozen sections has been possible for more than a quarter of a century. The staining of unfixed frozen sections with polychrome methylene blue and other stains is a well-established procedure. In many operating rooms in university and other large and small surgical clinics, provisions for these immediate diagnostic studies have not only been available, but have been in practical use for years. While, unfortunately, on the other side, this diagnostic part of the operating room is conspicuous by its absence in many clinics.

Before 1915 it was rarely necessary for a surgeon well trained in gross pathology to need a frozen section to help him in diagnosis at the operating table. Since 1915, and especially since 1922, the public has become so enlightened that malignant disease formerly easily recognized either clinically or in the gross, now appears in our operating rooms devoid of its easily recognized clinical and gross appearance and can only be properly discovered by an immediate frozen section. The majority of operating rooms are not equipped or prepared for this new diagnostic test.

The first essential part of this diagnosis is the technician—one to cut and stain the frozen section, or to make and stain the smear. The second is a pathologist trained to interpret it. It is possible for the surgeon to be all three in himself, and some young surgeons are so equipped. In others it is a dual combination—surgeon and pathologist in one, and the technician. More frequently it is three—operator, technician and pathologist. It makes little difference whether it is one, two or three individuals, providing each has the equipment and training for this most difficult diagnostic test.

In the address as chairman of the surgical section of the Southern Medical Association, I discussed biopsy, and this paper has been published in the Southern Medical Journal for January, 1927 (Vol. XX, page 18.) A reprint of this paper will be sent to anyone on request. The chief object of this letter is to come in contact with surgeons and pathologists who are sufficiently interested in this problem to discuss it either by correspondence, or by attending a meeting in the surgical pathological laboratory of the Johns Hopkins Hospital, either the Monday before, or the Friday after the meeting of the American Medical Association in Washington.

Schools for technicians may have to be established in different sections of the country, and the surgical pathological laboratories of the medical schools and the larger surgical clinics should offer courses in this tissue diagnosis, so that surgeons may learn to become their own pathologists, or pathologists learn the particular needs of the surgeon in tissue diagnosis in the operating room.

It is quite true that when the majority of the public is fully enlightened, the surgeon will see lesions of the skin and oral cavity and the majority of subcutaneous tumors when they are so small that their complete excision is not only indicated, but possible without any mutilation. The chief danger here will be a surgical mistake—the incomplete removal of an apparently innocent tumor. There is no necessity here for biopsy. If a proper local excision is done, no matter what the microscope reveals, that local operation should be sufficient. But when lesions of the skin, oral cavity and soft parts are extensive and their complete radical removal mutilating, then there must be biopsy to establish the exact pathology.

In tumors of the breast and disease of bone, for years, the diagnosis could be made clinically, or from the gross appearance at exploration. But now, in an increasing number of cases, the breast tumor must be explored, and the gross pathology of this earlier stage is not sufficiently differentiated to allow a positive diagnosis. Immediate frozen sections are essential to indicate when the complete operation should be done. The same is true of the earlier stages of lesions of bone. The X-rays no longer make a positive differentiation between many of the benign and malignant diseases, for example, sclerosing osteomyelitis and sclerosing osteosarcoma.

We must not only specialize in tissue diagnosis, but we must organize this department so it will function properly in as many operating rooms as possible in this country.

Then there is a final and most difficult question to consider. I doubt if it can be settled. What shall be done in those operating rooms in which there is no technician to make the sections and no one trained to interpret the microscopic picture? How can a piece be excised or a tumor removed, for example, from the breast, and this tissue sent to some laboratory for diagnosis without incurring the risk of the delay to this patient. I have discussed this point in my paper on biopsy.

JOSEPH COLT BLOODGOOD,

Surgical Pathological Laboratory, Johns
Hopkins Hospital.

LOUISIANA STATE MEDICAL SOCIETY

New Orleans, La.
February 5th, 1927.

*Dr. Oscar Dowling, President,
Louisiana State Board of Health,
New Court Building,
New Orleans, Louisiana.*

Dear Doctor Dowling:

At a session of the Executive Committee of the Louisiana State Medical Society, January 28th, 1927, the following resolution was adopted:

"Whereas, Milk is conceded to be the most important single article of food in the human dietary and is particularly valuable as food for children and adolescents, and

Whereas, Milk is also an excellent food for bacteria it is most important that our milk supplies be scrupulously safeguarded from danger of contamination, and

Whereas, The U. S. Public Health Service ordinance for milk control which the State Board of Health is recommending for adoption by municipalities is fair and reasonable in its requirements and has been shown by experience to give protection to the consumer and at the same time increase the consumption of milk by establishing public confidence in the safety of a supply,

Therefore, be it resolved, That the Louisiana State Medical Society endorse this ordinance and recommend its adoption by the municipalities of the State."

Yours very truly,

(Signed) P. T. TALBOT,
Secretary-Treasurer.

INTERNATIONAL ASSOCIATION OF DAIRY AND MILK INSPECTION.

Washington, D. C.
January 24, 1927.

*Executive Officer,
State Department of Health,
Baton Rouge, La.*

Dear Sir:

The International Association of Dairy and Milk Inspectors having for its object the development of uniform and efficient inspection of dairy farms, milk establishments, milk and milk products, at its fifteenth annual convention in Philadelphia, October, 1926, adopted the following resolutions:

Whereas, this Association recognizes milk as the first necessity of life, and that inspection of the sources of production, distribution, and careful chemical and bacteriological examination of milk is necessary in the protection of the public health; therefore, be it

Resolved, That the International Association of Dairy and Milk Inspectors urgently recommends to the various State and city departments of health that in the selection of those who are to fill the positions of dairy and milk inspectors, special effort be made to employ only those who are entirely reliable, thoroughly competent, and well qualified adequately to safeguard milk supplies and properly protect the public health; and, be it further

Resolved, That a copy of this resolution be mailed to each State Department of Health with the request that it be published in the bulletin of the Department.

Trusting the foregoing will be helpful to you in your work, I beg to remain

Very respectfully,

(Signed) IVAN C. WELD,
Secretary.

ORLEANS PARISH MEDICAL SOCIETY.

1551 Canal Street.

New Orleans.

February 7th, 1927.

*To the Mayor and Commission Council,
City of New Orleans,
City Hall,
New Orleans, La.*

Gentlemen:

The following is a resolution passed at the meeting of the Board of Directors of the Orleans Parish Medical Society Monday, February 7th,

1927, relative to the proposed Milk Ordinance for the Parish of Orleans.

Whereas, the physical welfare of the public, more especially infants and growing children, depends to a large extent upon the abundant use of wholesome milk in the dietary, and

Whereas, of all foods, milk is most liable to detrimental or dangerous bacterial contamination, and

Whereas, the City and State Boards of Health are the authorities on which we must rely in all matters pertaining to the sanitary quality of milk, and are moreover, charged by law with the duty and responsibility of safeguarding the milk supply against the dangers of contamination, and

Whereas, the said City and State Boards of Health, after having thoroughly investigated all phases of milk sanitation, have agreed upon the U. S. Public Health Service Standard Ordinance as being the most practical and effective of all proposed measures for insuring the desired safety and wholesome quality in the milk supply of New Orleans, and

Whereas, this Standard Ordinance is fair and reasonable in its provisions and has been shown by experience to bring about an increase in milk consumption, and consequently an increase in the business of the dairymen, by establishing public confidence in the safety of the supply.

Therefore be it resolved, That the Orleans Parish Medical Society heartily endorse the Ordinance proposed by the City Board of Health and urge its immediate adoption by the Commission Council of New Orleans,

Be it further resolved, That a copy of this resolution be sent to the Mayor and Members of the Commission Council, to the Superintendent of Public Health, and to the local press.

Very truly yours,

(Signed) H. THEODORE SIMON, M. D.,
Secretary.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

ANNUAL REPORT OF SECRETARY, 1926.

Dr. H. Theodore Simon

To the Officers and Members, Orleans Parish Medical Society:

As Secretary of your Society it is my duty to enumerate the many happenings of the past year many of which are other than of a truly medical nature. It is my hope to be as brief as possible, at the same time endeavoring to give you a complete report.

Some facts mentioned will be further dwelt upon by other officers and chairmen of various committees, and I beg your indulgence in this repetition which custom has made necessary.

During this past year the Society has been fortunate in having two of its members signally honored, Dr. Rudolph Matas was the recipient of the Bigelow Medal, which is the highest attainable honor which can be bestowed upon a surgeon in our United States. Dr. Amedee Granger was presented with a gold medal by the Radiological Society of North America for his original work on x-ray of the sinuses of the skull, which work has virtually revolutionized this particular phase of roentgenology.

MEMBERSHIP.

The present total membership is 483, of whom 448 are Active Members, 18 Interne Members, 14 Associate Members and 3 Honorary Members. Drs. P. B. McCutcheon and H. S. Cocram both retiring from active practice and both being members from practically the infancy of the Society, were elected to Honorary Membership. Losses during the year were 32. These were: due to deaths, 6; dropped for delinquency, 6; resigned, 5; removals, 12; and suspension for unprofessional conduct, 3. There was a net gain of 34, which is represented as follows: new members, 31; reinstated, 3. When one considers that in the Parish of Orleans we have 616 licensed physicians and surgeons of which number possibly 80 or more are interne members, it is readily seen that there still remains about 100 practicing physicians who are not members of this Society. It is doubtful if more than 30 or 40 per cent of this number would be acceptable candidates for membership. Therefore the total active membership of this Society at best will possibly never be more than 475 or 480. This means an increase of 30 or 40 new active members and an attempt by the membership at large could in the next year easily bring in this number.

MEETINGS.

The Board of Directors has held ten meetings. All members of the board worked diligently during this past year co-operating with the president and other officers in an attempt to dispose of many matters brought before them. The Society has held twenty-one general meetings during the year, of this number there was the installation meeting, ten scientific meetings, three quarterly executive meetings, four clinical meetings and three special meetings. The average attendance at these meetings was 101, 84 beings members of the Society. In going over this attendance it is interesting to note that at the three meetings at which papers were presented by noted physicians from other parts of the country the attendance was around 150. At best, an attendance of 150 with a membership of 480 is exceptionally poor and all endeavors should lead to an increase in attendance at meetings. The papers read at the scientific meetings were of the highest order, some of the work being original. Discussions were rather free and as a whole from a scientific standpoint the Society has had a brilliant year; this I feel is partly due to the ceaseless and untiring efforts of the Scientific Essays Committee and its Chairman, Dr. Emmett L. Irwin. Papers were presented by six physicians from other parts of the country among whom were Dr. H. Gideon Wells of the Sprague Institute of Cancer Research of Chicago; Dr. Philip S. Hench of Rochester; Dr. James T. Case of Battle Creek; Dr. Emanuel Leibman of New York; Dr. Morris Fishbein of Chicago and Dr. Allen O. Whipple of New York. The membership was also invited to a meeting under the auspices of the Tulane School of Medicine at which Dr. Counselman of the Harvard School of Medicine read a paper.

DUES.

As everyone is well aware, the annual dues of the Society for active membership have been increased. This increase was imperative and timely and with it the Society is able to carry on in a more businesslike and efficient manner. It is gratifying to know also that 50% of the dues have been collected in advance which curtails the excessive clerical work necessary when all dues were collected quarterly as had been the custom heretofore.

DOMICILE.

The Society has gone on record as being opposed to the purchase of a domicile site and has definitely passed resolutions relative to accepting the generous offer of the Board of Administrators of the Tulane Educational Fund to re-

main as presently housed with the Tulane School of Medicine. It is hoped that the new domicile for the Tulane School of Medicine will soon be erected and that more space be given for our ever increasing library and that more comfortable quarters will be allotted than under existing conditions.

ANNUAL BANQUET.

The Society has voted the continuance of the annual banquet to be held following the election which takes place on the second Saturday in December. This custom has brought into the Society a congenial social occasion which is enjoyed by all who participate and in the future an effort should be made to have the entire membership attend.

STANFORD E. CHAILLE MEMORIAL ORATION.

The Board of Directors has voted the money for an oration to be delivered by some prominent physician or surgeon on some important topic yearly, preferably in the month of November. This oration is to commemorate the memory of the illustrious and well-known Dr. Stanford E. Chaille.

REVISION OF THE BY-LAWS.

The revision of the By-Laws started by the last Board of Directors has been constantly before the present Board. This revision is almost in form for presentation to the general body for their consideration.

JOURNAL.

The transactions of this Society are now listed under a separate heading in the official organ of the Society, the New Orleans Medical and Surgical Journal. This arrangement being far more satisfactory than heretofore when the reports of the Society were under News and Comments of the Journal. These transactions give to a member all of the happenings at all of the meetings of the Society and the Board of Directors. The Secretary of this Society now ipso facto becomes associate editor of the New Orleans Medical and Surgical Journal with jurisdiction over the news and comments from Louisiana. The minutes of the clinical meetings held in conjunction with the staff of the Charity Hospital are now being published in the Journal. This is in my opinion a decided advancement as cases presented at these meetings are cases of unusual interest and often rarity and it happens sometimes that no more record is ever made of these cases in future papers so that we can see the advantage of putting such cases in medical record for future reference.

COMMITTEES.

A few of the committees were exceptionally active during this past year more because the

Louisiana State Legislature was in session. The Hospital Abuse Committee, by its diligent efforts with its chairman, Dr. A. E. Fossier, has succeeded in having passed the necessary legislation for the curtailment of excessive abuse in our Charity Hospitals. The Committee on State Medicine and Legislation through co-operation with the Louisiana State Board of Medical Examiners and a like committee from the Louisiana State Medical Society has been extremely successful in defeating the proposed acceptance of the chiropractor into the legitimate field of practicing physicians of Louisiana. The president has appointed a special committee for the investigation of Periodic Health Examinations, this committee reporting for the first time tonight.

The Society through its president has appointed ten physicians on the Milk Commission for the past year. The Society has gone on record as favoring the proposed plan of the American Medical Association whereby it becomes a local unit in medical relief in cases of disaster or calamity of any magnitude, this unit to function only until proper government and Red Cross aid becomes available. There has been voted a change in investment of the \$30,000.00 Domicile Fund from 4¼ % Liberty Bonds to bonds bearing a greater rate of interest. This gives an additional increase for the financings of the future policies of the Society. The Board of Directors has given as a loan to the Charity Hospital Library 500 duplicate books which is an excellent nucleus to this well deserving attempt on the part of the internes of Charity Hospital to have a library of their own.

During this year the following delegates and alternates to the Louisiana State Medical Convention have been elected for a period of two years:

DELEGATES

ALTERNATES

Dr. Emmett L. Irwin	Dr. W. D. Phillips
Dr. Urban Maes	Dr. Lucien LeDoux
Dr. Marcy J. Lyons	Dr. S. Hobson
Dr. L. L. Cazenavette	Dr. C. Grenes Cole
Dr. L. A. Fortier	Dr. Chas. F. Gelbke
Dr. F. J. Chalaron	Dr. A. Jacobs
Dr. J. Birney Guthrie	Dr. Fred L. Fenno
Dr. H. W. Kostmayer	Dr. John Signorelli
Dr. H. Theodore Simon	Dr. Henry Daspit
Dr. Maurice J. Gelpi	Dr. P. Graffagnino
Dr. H. B. Gessner	Dr. J. A. Danna

OFFICE ORGANIZATION.

The work in the office has proceeded in a satisfactory and businesslike manner. I wish to thank Miss Lucille Maier, our assistant secretary-

treasurer, for her faithfulness and promptness in her endeavors to co-operate.

In conclusion I wish to thank the president and each member of the Board of Directors for their hearty co-operation and the general membership for the opportunity they have given me to serve this Society. I again wish to thank them for my re-election to the office of secretary in the coming years and I will endeavor to be conscientious in my efforts to advance organized medicine and the Orleans Parish Medical Society.

Respectfully submitted,

H. THEODORE SIMON, M. D.,
Secretary.

The following is a brief summary of the Annual Receipts and Expenditures of the Orleans Parish Medical Society:

REPORT OF GENERAL FUND, 1926.

Balance on Hand, January 1st, 1926.....	\$1,678.56
Receipts	9,337.99
Expenditures	8,607.58
Actual Book Balance	1,214.56
Total Office Expenditures	119.07
Incidentals	430.17
Total special receipts	90.49
Total special expenditures	3,912.30

Respectfully submitted,

JOHN H. LANFORD, M. D.,
Treasurer.

ANNUAL REPORT OF THE LIBRARIAN FOR YEAR 1926.

During the past year the library has made steady progress and several additions may be noted.

There were 668 books added to the collection, as compared with a total of 530 during the previous year. 238 were received by gift, 35 by subscription, 1 by replacement, 251 by binding, 19 by purchase and 124 from the New Orleans Medical and Surgical Journal. The total accession to December 31, 1926, is 12,238 (last year, 11,570).

The number of bibliographies prepared was 43. During 1925 there were 37, whereas in 1924 there were only 11. A comparison of these figures will readily demonstrate the increase in reference value of the library, as much as four-fold in the past two years. All prepared bibliographies are on file in the library for future reference.

Since our need of new monographs is cared for by the members of the Society reviewing the books that are sent to the New Orleans Medical and Surgical Journal for this purpose, we are enabled to spend more for completion and building up our magazine files. Distinct advance has been made in this direction during the current year. There are now 55 files which are complete from volume 1 to date, and many more which are nearing completion. The total number of current magazines in our files is 150.

EQUIPMENT.

New lights were added in the reading room, one-half of the cost of which was donated by Dr. W. A. Lurie. A desk chair was purchased for the assistant librarian.

The Library Committee held one meeting on July 21, with good attendance and considerable interest. The donors of books in 1926 are as follows:

Dr. John Oechsner, Dr. W. H. Block, Dr. H. W. E. Walther, Dr. C. Jeff Miller, Dr. Allan Eustis, Dr. M. H. McGuire, Dr. Haidee Weeks, Dr. P. B. McCutcheon, Medical Library Association, Dr. Walter E. Levy, Dr. H. Dickson Bruns, Dr. W. A. Love, Dr. I. I. Lemann, Dr. W. A. Lurie, Dr. E. D. Martin, Dr. H. J. Otto, Dr. John A. Lanford.

DANIEL N. SILVERMAN, M. D.,
Librarian.

REPORT OF THE PRESIDENT, 1926

Dr. Maurice J. Gelpi

Ladies and Gentlemen:

Before the installation of the incoming president, it is customary to pass in review the principal activities of the Society during the preceding year. So as not to delay the proceedings unduly, however, only the salient features of the last administration will be submitted for your consideration.

From the scientific standpoint, the meetings have been of a high order due to two main factors—first, the unceasing activity of the chairman of the Scientific Essays Committee, Dr. Emmett Irwin, and second, the appearance of an unusual number of prominent essayists from other medical centers outside of our ranks. As was anticipated, the presence of these distinguished visitors proved to be a great stimulus to attendance. For instance, at nine consecutive meetings, there was an average attendance of over one hundred—the maximum being one hundred and seventy-eight and the minimum fifty-one. Also a year ago, a special appeal was made to the teachers to

contribute to the scientific programs. It is most gratifying to report that the teachers responded nobly to this appeal, and their co-operation added greatly to the success of the scientific sessions.

A notable permanent addition to the yearly scientific work has been inaugurated in the form of the Chaille Memorial Oration, recently delivered for the first time by Dr. Allen Whipple of New York. The expense of this annual oration will be defrayed as it was this year by utilizing part of the funds available from the increase in dues.

In reference to the question of the increase in dues, it was a source of considerable gratification to the Chair as well as to the Board to be able to defray from this source, not only the expenditure already indicated, but also to provide more adequately for the upkeep and development of the library. As a result, the financial state of the library has been made more in keeping with its excellent physical condition and high degree of efficiency developed under the management of the librarian, Dr. Silverman, and the assistant librarian, Miss Marshall. Furthermore, the increase in dues has had also a favorable reaction on the already healthy state of the treasury.

As regards the financial condition of the Society, our efficient treasurer, Dr. Lanford, will have more to tell you in his report. Suffice it to record for the present, that the Society has never been in a better condition from the monetary standpoint. This thought brings to mind the question of a permanent domicile.

In this connection, it is worthy of note that the only important administrative measure which failed to pass, was that providing for the purchase of a domicile site for the future erection of a suitable building, including a fireproof library. Discussion of the measure, however, culminated in a very satisfactory solution of the problem, at least for some time in the future. In other words, our main object has been realized through the acceptance by the Society of a definite offer from Tulane University, to house the Society and the library and to provide for a suitable meeting place. This has permitted the necessary reinvestment of the so-called "Domicile Fund," which has been duly authorized by the Society and executed by the proper committee.

The work of all the standing and special committees has been most satisfactory, liberal and unselfish and the Chair feels very grateful to every one of these for their unstinting contribution in time, thought and action. As a matter of fact, whatever constructive work might be credited to this administration should be given almost

exclusively to the various committees and to the Board. This is most particularly true of the Hospital Abuse Committee.

As you know, the question of hospital abuse has been a vexing one for many years and as far back as 1915 the subject was greatly agitated. There was even a symposium on the question participated in by various members of the Society at that time. While the subject has always excited the keenest interest, nothing definite has ever been accomplished in the way of solving the difficulty until this year. For the first time, your committee by their persistent and untiring efforts, assisted by members of the State Society and others, succeeded in having the Legislature pass the necessary law for correcting hospital abuse. Too much praise cannot be given the chairman, Dr. Fossier, and the other members composing this most efficient committee. The successful consummation of this arduous labor stands in contrast to the single task of any magnitude, which still remains unfinished.

Reference is made to the revision of the By-Laws. While considerable time was devoted to this work and the entire subject-matter was gone over at least three times, it was concluded that on account of certain unfinished and incomplete minor details, the revision should be turned over to the new Board for completion. In conclusion, the liberty is taken of adding to this heritage for the Board a single suggestion in the form of a recommendation for their consideration next year.

As is generally accepted at the present day, the question of publicity in all its phases is now irrevocably linked with modern medicine. The public is eager for enlightened and correct information on medical matters and the press is equally eager to supply the demand. Everyone grants that both the public and the press are stimulated by a perfectly normal impulse and even the medical profession now admits that for obvious reasons, the public craving should be gratified. So that the necessity of supplying information in regard to public health matters, the urgency of posting the press in regard to the correctness of medical news, the obligation for supervision of material for publication especially when referring to individual members in the profession, the responsibility for the broadcasting of medical material and all other public medical matters depending upon accuracy for their value,—are all loudly calling for the exercise of a distinct duty on the part of this Medical Society.

This duty lies in the assuming of a function not only as public medical advisor, but also as a co-ordinating agent with the public press and

even as a censor of all medical matters intended ultimately for the public. This function could be best performed through the organization of a carefully selected standing committee on publicity. The essential function of this committee would be therefore to preside as both judge and jury, in every case involving anything medical destined for the public. In other words, in all matters pertaining to publicity, the committee should be plenipotentiary. With a little diplomacy and determined effort, co-operation on the part of the public press could be readily won over resulting in the benefit of all concerned. The subject has been discussed a number of times by the Board and was brought up again recently by Dr. Fishbein, Editor of the Journal of the American Medical Association. Dr. Fishbein was keenly interested in the present local condition in this respect, and was informed that while the Society had done nothing definite to meet the situation so far, this recommendation was contemplated.

And now, my friends, it would be very ungrateful of us to dispose of this report, almost our last official act, without a word of special thanks to the Board and to the secretary for their consistent loyalty and assistance. Also, this opportunity cannot be overlooked to thank the entire Society for their universal good nature as well as for their tolerance of us in excitement, and indulgence in trying circumstances. Our efforts have always been to look after your interests and to carry out the will of the majority. If in the quest of these two objects, our main endeavor, we have shown signs of human weakness and perhaps at times exposed ourselves to criticism from certain quarters, at least you have the fullest assurance that our actions have always been guided by the very best intentions and never by sinister motives.

INAUGURAL ADDRESS OF PRESIDENT.

Dr. A. E. Fossier

Honors beget responsibilities, and the conscientious fulfillment of these responsibilities can only be accomplished by endless attention, unswerving devotion and relentless toil.

To be the President of the Orleans Parish Medical Society is a very great honor; to be your representative, my confreres, is a distinction greatly to be coveted, and with pardonable pride and exultation I accept the dignity you have conferred upon me. I also cheerfully accept the responsibilities pertaining to the office, and I sincerely hope, a year hence, when I relinquish the stewardship of this Society to my successor, my humble efforts will have been crowned with your approbation.

After reviewing the discourses of my predecessors on similar occasions, I was bewildered by the great things they had proposed and accomplished. During their respective terms of office questions of momentous importance were rapidly and successfully solved, and the scientific programs reached a pinnacle so high, that it would be extremely difficult even to reach much less to surpass them.

In obedience to a mandate long established by you, I humbly and respectfully submit for your kind consideration and with the hope of your approval, the following recommendations:

One of the many outstanding features which distinguished the past administration was the enactment of a law to curb abuse in our State Charity Hospitals, and the sapping of the State Treasury by individuals who through penuriousness, ignorance or other motives, seek the philanthropy of the State and thereby lower the high standard of these institutions to the detriment of the needy poor. This law serves a great benevolent purpose, because by denying admission to the undeserving we are preventing the overcrowding of these institutions and thereby assuring the indigent sick, the accommodations and attentions that they cannot procure elsewhere. Our Society which fostered and proposed for passage this bill to the legislative assembly must see and must insist that it is not only observed in spirit but it is obeyed to the very letter. It can be stated beyond the possibility of successful contradiction that this law has not only been favorably considered, but has the hearty approval of superintendents, trustees and administrators of Charity Hospitals in this country, and has been acclaimed by many also a model for the drafting of similar measures in other states.

The limiting of the privileges of our Charity Hospitals and clinics to the deserving poor serves to bring to our attention another question of vital importance. The problem of cheaper hospital facilities is everywhere being agitated. The wealthy and indigent enjoy every medical, surgical and therapeutical advantages, but the great middle class who have not sufficient means to pay for the necessary expensive refinement of medical treatment, and who are too proud and self-respecting to accept free service, are penalized for their commendable self-respect and for their determination to pay their own way.

There is a paralellism existing between our great medical teaching institutions and our pay hospitals. The time was in the recent past that a medical college was self-supporting and could ably function from the fees obtained from its students. Today these institutions are all endowed, the tui-

tion fees furnishing but a small proportion of the necessary revenues. It is impossible to bring all hospital facilities within the reach of persons of moderate means, for under present conditions even the best managed institutions show an operating deficit. This condition will become much more acute in the future. The rapid strides in the advancement of science and medicine, and the greater complexity of the diagnostic and therapeutic methods, make the cost of hospitalization ever increasing. The only solution is the endowment of these institutions. There is no field of human endeavor which should be more attractive to our philanthropists, for by alleviating the burden of the high cost of hospitalization they will produce great beneficent results, and will prevent the pauperization of their fellow creatures, and what is still more important, help them to retain their self-respect.

We would indeed be remiss in our obligation to our patients, if this year should come to a close without giving serious consideration to the promotion of Periodic Health Examinations. Longevity is one of the strongest desires of the human heart and the greatest ideal of the true physician. This is not the occasion to dwell upon, nor will the limited time allowed me to address you permit me to enter deeply into the merits of periodic health examinations by the family physician, but I feel that unless the Society fosters and takes an active interest in this cause commercial agencies will supercede the family physician, who rightfully and for the greatest benefit of the public should be the one to render this service. A periodical health examination committee should be immediately appointed in order that deep study be given to this most opportune and important subject.

There has always been a certain amount of dignified reticence on the part of the ethical element of our profession concerning the furnishing of medical information to the press, and for this reason we may be partly responsible for the frequent publications of pseudo-scientific and even misleading and dangerous medical news in our daily journals.

The lay press is the most powerful medium of instruction for the public in health matters; with proper co-operation between the publicist and the physician, real, truthful and most valuable information can be disseminated to the large multitude who read the daily papers. We must do our utmost to secure this co-operation. The public has decided that it wants health talk. It is vitally interested in the prolongation of life, and in the prevention of disease, but the knowledge to be diffused should be accurate, impersonal and free of all tinge of commercialism. This can be only

accomplished by a Committee on Press and Publicity which should be a standing committee. This committee should serve as a mediator between the press and the profession, furnish to the press medical matters of interest to the laymen, and at the same time be a censor of fake and unscrupulous medical news. It should also serve to advise the editors concerning items of a professional character. Incidentally, I wish to suggest that the duties of this committee may include the dissemination of health talks to the vast invisible audience by radio broadcasting. The scope of the work of this committee is enormous, and will assure a service of extreme value to the physical welfare of the public.

Whilst the primary object and purpose of the Orleans Parish Medical Society is for the advancement of the science of medicine and surgery, the establishment and maintenance of a medical library and museum for the education and advancement of its members, and the encouragement of scientific and philosophic studies, the consideration of ways and means not only to safeguard but to promote the physical well being of its members should be given due and careful study.

It is the consensus of opinion that contract practice does not work under present conditions, to the best interest of the public and the physician. I respectfully suggest the appointment of a special committee to give careful and deliberate study to this vital question, not with the idea of abolishing same, for in its way it serves a useful purpose, but of regulating this practice, with the object in view of providing for the patients' better medical attention and securing for the physician more equitable remuneration.

In order to encourage a greater attendance at quarterly meetings and to relieve the monotony of tedious routine business transactions, it may be wise to make these meetings more attractive by inviting prominent laymen to speak on live, instructive and interesting subjects.

Many more recommendations could be in order, but I do not wish to burden you any further tonight, as the occasion will present itself during the course of the year to submit them for your consideration.

The excellency of our medical teaching and the wealth of material furnished by our Charity Hospital, and other free clinics, should make this city the mecca of medical research and education, not only for the South, but for the whole United States and likewise for our Latin American neighbors.

The attention of the medical world is riveted on New Orleans. No other city in the union

has a greater claim by cause of its greater opportunities to become a great center of medical education. Great numbers of students of medicine, the country over, are seeking these great advantages offered here, but unfortunately this privilege must be refused them, because of lack of facilities.

New Orleans is on the eve of a medical renaissance, and it is about to reassert its rightful place as the great medical center in this country which it unquestionably held the fifteen years preceding the Civil War.

The Orleans Parish Medical Society should ever keep pace with the march of progress. Unfortunately there has been a growing tendency on the part of the public as well as of some members of this Society to eliminate the physician, because of his profession, from positions of a medico-civic character, or even from the management of institutions purely medical in their scope. We are frequently asked by charitable organizations to do their work and then denied by them our rightful place in their councils. More and more this Society should assert itself as the dominant factor in the health affairs of this city. Its counsel should be sought, and its support solicited by our health organizations on questions vitally important to the physical welfare of this community.

Our civic duty is clearcut and well defined and to the fullest extent of our strength, we must not only resent, but combat, any effort made to curtail our rightful prerogatives.

Again I wish to thank you for your confidence, and for the honor you have conferred upon me.

TRANSACTIONS OF THE ORLEANS PARISH MEDICAL SOCIETY.

February

During the month of February the Board of Directors has held one meeting and the Society one Scientific Meeting, the second meeting being dispensed with on account of confliction with Carnival.

At the meeting of the Board of Directors the proposed Milk Ordinance for the Parish of Orleans as approved by the New Orleans Pure Milk Society, the City and State Boards of Health was endorsed by the Board of Directors endorsement being in the form of a resolution, a copy of which was sent to the Commission Council and the Press.

The \$30,000 Domicile Fund is now invested in 1st mortgage bonds bringing in approximately 6% interest.

The following were elected to Membership:

Active Members: Drs. R. R. Gillespy, Mayer Newhauser and J. T. Sanders.

Associate Member: Dr. Walter C. Hava.

Interne Member: Dr. James W. Long.

At the Scientific Meeting held February 14th papers were presented by the following:

"Some Physiological Effects of Carbon Arc Radiation."

By..... Dr. Henry Laurens, Dept. of Physiology Tulane University.

"The Clinical Significance of Electrocardiographic Tracings."

By..... Dr. Geo. R. Herrmann

"Some Phases of Criminal Abortion."

By..... Dr. E. A. Ficklen
Discussed by Dr. E. L. King

"Observations on Various Types of Tinea Trichophytica and other Tinea in New Orleans."

By..... Dr. Aldo Castellani
Discussed by Dr. Ralph Hopkins

The attendance at this meeting was excellent, there being approximately 150 members and guests.

At the executive session of this meeting the Society went on record as favoring a Periodic Health Week to be held in New Orleans some time this spring or summer, and a special committee to carry out the arrangements for this health week was ordered appointed by the President.

The Arrangement Committee for the Louisiana State Medical Society Meeting is as follows:

Dr. Lucien LeDoux, Chairman. Dr. H. Theodore Simon, Ex-Officio, Secretary.

Committee on Finance: Dr. O. C. Cassegrain, Chairman; Dr. Wallace J. Durel, Dr. Elizabeth Bass, Dr. F. J. Chalaron and Dr. A. Jacobs.

Committee on Registration: Dr. Shirley C. Lyons, Chairman; Dr. J. J. Irwin, Dr. Kotz Allen, Dr. H. R. Unsworth and Dr. Monte Meyer.

Committee on Booths: Dr. Marcy J. Lyons, Chairman; Dr. A. Menendez, Dr. Cosmo Tardo, Dr. Daniel J. Murphy and Dr. T. A. Maxwell.

Committee on Signs and Decorations: Dr. T. F. Kirn, Chairman; Dr. F. R. Gomila, Dr. Emmett L. Irwin, Dr. Fred L. Fenno and Dr. J. L. Locascio.

Committee on Ladies' Entertainment: To be appointed.

Committee on Badges: Dr. W. P. Gardiner, Chairman; Dr. P. L. Thibaut, Dr. Daniel N. Silverman, Dr. Frank Chetta and Dr. Edmond Souchon, II.

Committee on Scientific Exhibits: Dr. R. H. Potts, Chairman; Dr. Jules Dupuy, Dr. John F. Dicks, Dr. J. D. Rives and Dr. Geo. R. Herrmann.

Committee on Entertainment: Dr. R. J. Mainegra, Jr., Chairman; Dr. W. A. Reed, Dr. J. J. Wymer, Dr. H. E. Bernadas and Dr. Andrew Friedrichs.

Committee on Publicity: Dr. E. L. Leckert, Chairman; Dr. Homer Dupuy, Dr. H. E. Bernadas, Dr. C. V. Unsworth and Dr. Urban Maes.

Committee on Hotels: Dr. J. C. Menendez, Chairman; Dr. Harold Bloom, Dr. Joseph A. Hountha, Dr. Walter E. Levy and Dr. J. J. Ryan.

Committee on Golf: Dr. Val H. Fuchs, Chairman; Dr. F. Temple Brown, Dr. W. W. Leake, Dr. Lucien Fortier and Dr. P. C. DeVerges.

Committee on Convention Clinics: Dr. Isidore Cohn, Chairman; Dr. Jerome Landry, Charity Hospital; Dr. I. I. Lemann, Touro Infirmary; Dr. Maurice J. Gelpi, Hotel Dieu; Dr. A. O. Hoefeld, Presbyterian Hospital; Dr. T. B. Sellers, Baptist Hospital; Dr. F. E. LeJeune, Eye, Ear, Nose and Throat Hospital; Dr. O. C. Cassegrain, French Hospital.

REPORT OF TREASURER.

January

Actual Book Balance 12/30/26	\$1,214.56
Receipts during January	\$2,813.32
	<hr/>
Expenditures	\$4,027.88
	<hr/>
Actual Book Balance	\$1,199.04
	<hr/>
Actual Book Balance	\$2,828.84
Outstanding checks	\$ 815.00
	<hr/>
Bank Balance 1/31/27	\$3,643.84

TRANSACTIONS OF THE JOINT CLINICAL MEETING OF THE ORLEANS PARISH MEDICAL SOCIETY WITH THE CHARITY HOSPITAL STAFF HELD NOVEMBER 8th, 1926.

PRESENTATION OF CASE OF MARCOLEPSY.

Dr. W. J. Otis

This is a case of a child twelve years of age, the eighth born of twelve children. The father, who gave the history, stated that there was no

REPORT OF LIBRARIAN.

January

Six bibliographies have been prepared during the month on subjects as follows:

- Diabetic Coma (1922-26)
- Diabetic Gangrene (1922-26)
- Sprengel's Deformity (1916-date)
- Choice of an Anesthetic (1922-date)
- Dilatation of Duodenum
- Epigastric Hernia (1922-26)

These lists have been placed on file for the use of the membership. The reference work is always heavy at this season of the year.

Forty books have been added to the library. Of these twenty-one were received by subscription, ten by gift and nine from the New Orleans Medical and Surgical Journal. Gifts have been received from Dr. H. B. Gessner, Dr. W. A. Lurie, Dr. Haidee Weeks and the Medical Library Association.

The first allotment of the books of the Interns' Library at Charity Hospital, was sent over, 128 volumes. These are duly listed and receipted by Dr. Leake, according to the written agreement of the conditions under which the books are loaned. This sorting and listing will proceed from now on, as rapidly as the reference calls in the Library permit, since the additional space in our growing collection is needed very badly. It is hoped that approval will be given as soon as possible for the additional equipment recommended in the Librarian's Report, as it will take sixty days to fill the order.

Respectfully submitted,

H. THEODORE SIMON, M. D.,
Secretary.

miscarriage; all the other children are normal. This is the patient's third admittance to the hospital. The first admittance she was referred by the attending physician as possibly a case of parasitic infection or overwhelming toxic condition by parasites. The next admission was for appendicitis, for which an operation was performed. Early in

April the child was noticed to drop off to sleep for no apparent cause. At school she would put her head on her shoulder, be awakened, only to again put her head on her shoulder and fall asleep. She was sent home and brought into the hospital and treated for parasites. I do not think any were found.

The second entry was in April, 1926. Her father says that she was brought in this somnolent state with a possibly history of appendicitis attached. The child was admitted to a surgical service and the surgical record states that an appendectomy was performed, a diseased appendix found and removed. The child remained in the sleepy state several days after the operation, recovering sufficiently to go home and to resume her studies.

On the 29th of last month she was seen to fall asleep again in the school room. She was awakened and shaken by the teacher; she was then clear for a little while but later returned to her sleeping. When readmitted here she was in this sleepy condition and her body was stiff and rigid. The admitting diagnosis was dementia præcox. The data given at this time was that Friday, while at school she slept through the entire noon hours, but seemed perfectly normal when she returned home. Saturday morning at 9:30, while she was washing, she fell. Her mother ran to her assistance; she was limp, but after being made to inhale some ammonia she seemed much better. Monday patient was well. Tuesday, jaws were locked and her family physician recommended that she be brought to the hospital. She could not speak, only nod her head in answer to questions.

At a previous admission a lumbar puncture was performed, which was negative in one exception, that the Wassermann of the fluid was not taken, neither was the gold cell reaction made, but the globulin was normal and cell count likewise. She remained in this sleepy condition until Friday, about one o'clock, and when she awoke there was no clouding and no evidence of having just come out of one of these attacks. Reflexes are present to a marked degree. Romberg negative. No ocular involvement. No vomiting. Facial expression that of one in sleep. No cyanosis—when lips and nose were pressed she colored up a little; eyes opened up perfectly normal, to close again. Friday we did some laboratory work to clear up the condition. Sunday nothing was done. This morning, after awakening, the work was resumed. I examined her and an x-ray picture was taken, the report of which I have not yet received. I happened to come in about 12:30, just as the

child was being brought from the x-ray room, and she seemed very somnolent, so sleepy she could not speak, but nodded her head when asked a question. I asked her if she had any pain and she shook her head. She was then going into one of those somnolent spells. I told the nurse to put her between blankets and feed her (nasal tube) every hour or two. Tonight she is very much brighter. After having been fed this afternoon she did not look so sleepy. The nurse said that at one time she became semi-rigid, but after this condition had passed off she sat up while her bath robe was put on. (Here Dr. Otis asked child if she went to school and what grade she was in. She answered that she was in the fifth grade-A. The history has it seventh grade-A.)

With the history as such, in the absence of epileptic phenomena, which I do not think has entered this case, and which her parents deny, I believe it would be well to rule out epilepsy. The froth which the mother described as coming out of the child's mouth when she went to her assistance was nothing more possibly than the drooling of saliva after sleep took possession of her. Hysteria also has no place in her history. Her people are a wage earning family; the children are all normal and this child is the father's favorite. The report of the teacher at school is satisfactory; no trauma, no fright, she has not been punished, nor was she threatened with punishment. She has not encephalitis. She has had a few fluctuating points of temperature, which do not amount to anything. Gellineau, in 1880, gave the name narcolepsy to a nervous manifestation, a paroxysmal stage in which people fell asleep during the day time for no apparent cause. Congenital narcolepsy occurs in children about puberty and remains for a period. So far there has been no mental retrogression. She goes back to school and takes up her studies until she becomes sick again. We consider fatigue in this case, systemic fatigue, possibly malnutrition (she is a social service case), ocular fatigue. The fatigue described by Friedmann in which patient has confused, delusional states, rises of temperature, vivid dreams, day nightmares do not fit in here as this child has nothing of the sort; she is very quiet and very lethargic. Nor is this dementia præcox occurring at about the adolescent stage. She came out of her lethargy this morning very clear, answered all questions, was fully prepared to go through all the examinations, went to the ophthalmologist, "media and fundi negative"; had x-ray picture taken. These reports have not been received as yet. Urinalysis showed a trace of indican and a trace of sugar. Blood picture: Hmgb. 85%; r. b. c. 5,200,00, w. b. c. 11,500. Pathology: None found except large red

cells (non nucleated). Feces: negative for parasites or larvae of any kind.

This is not a usual disease, rather unusual. I have seen a similar case in the Service diagnosed as mental fatigue, a condition which sometimes lasts for several years. There is no dementia attached and no change of personality. The treatment is supportive and stimulative. Other examinations will be made to show how the blood is handling the CO_2 content and other things. We are just beginning to work on the child.

Q. Dr. Brennan: I would like to know if tumor of the hypophysis has been considered, and also any reference to the c. metabolism in this case?

Q. Dr. L. Letten: Would you consider this a case of intermittent encephalitis?

Q. Dr. L. L. Cazenavette: What was the condition of the child's eyelids during sleep?

Q. Dr. Kostmayer: What is the prognosis in these cases?

Dr. L. L. Cazenavette: Dr. Otis has certainly presented a very interesting case. I would like to ask him whether this little girl presents the same state of sleepiness in the day as at night and whether the condition lasts the whole twenty-four hours, or part of the day or night?

I have seen two cases where this somnolent state took place in the day. As soon as night came on these patients were wide awake. It is rather an unusual condition because patients so afflicted can easily stay awake the whole night, but with the approach of morning they fall asleep and sleep profoundly nearly all day. I know of an instance where a man lost his job because he could never get up sufficiently early to get to work on time.

I would also like to ask Dr. Otis if he is able to give a prognosis in this case?

Dr. Otis: In answer to Dr. Brennan's question as regards the pituitary condition, the roentgen examination was for this and I am waiting on the report. However the child did not give any symptoms of pituitary disturbance at any time during her illness, no headaches, no pains over her eyes, no binding around the head, no heminaposias, no over or under development of the child as such. In answering Dr. Cazenavette: The child's eyes were closed at night as well as during the day. I did not ask the nurse to find out whether there was any difference in her facial expression, or her respiration or breathing during the night, as well as during the day time, but there was no apoplectic condition, no cyanosis, no tremors, just a semi-

rigid condition with confusional and mental appearance until she came out of it.

In answering Dr. Kostmayer, with reference to the prognosis, in cases of onset at adolescence stage they go on until about twenty or twenty-one and recover. This child has not menstruated as yet. In some instances this condition if continuous predisposes to N. P. disorders later in life. In answering Dr. Letter as regards intermittent encephalitis, I do not think the history or progress of symptoms are of intermittent encephalitis. The fact that she deliberately comes out of these spells without any serious aftermaths rules out this condition.

Ward 302. Neuro-Psychiatric Service No. 2.

PRESENTATION OF TWO CASES OF XANTHOMA.

Dr. R. Hopkins

Drs. Jones, Guthrie and I have for presentation two cases of xanthoma, the first a common form, the second a rare and unusual type.

In this first case, the usual type of xanthoma with which I am sure you are all familiar, the growth occurs almost always on the eyelids and is characterized by the visible, the almost conspicuous yellow of the lesion. It is quite common and in no way interferes with the well-being of the patient.

The second case is the type of xanthoma which occurs in diabetes, a condition which is extremely interesting, a disease which is extremely rare. Those of you who are sitting near can probably see the color in these lesions, the same color as on the eyelids in the common form of the disease. Very curiously, this xanthoma of the diabetic hardly if ever occurs on the eyelids, but it is scattered rather generally over the entire body. I do not know how many lesions this boy has, but believe it is up in the thousands. The first impression one would get by looking at the lesions on the back and side is that it is a mild case of variola or a severe case of chicken pox. This is characteristic of the disease—inflammatory papules, a little red with the central yellow discoloration. With reference to the diagnosis: The individual lesions, except for the yellow color, are almost identical with those of molluscum contagiosum: the differentiation, however, can be made by the great number of the lesions and the sudden occurrence of the disease.

I hope Dr. Guthrie, whose patient he has been, will discuss the diabetic phase of this curious skin

condition. I think Dr. Jones will have something of interest to tell us about the condition of the boy's blood. The serology is extremely interesting.

DISCUSSION.

Dr. J. Birney Guthrie: This little fellow has been under my care for about two years at the Clinic at Touro. We have been watching him and have seen a rather interesting condition varying from the amount of insulin, which has been given 15 to 20 units t.i.d., 30 units t.i.d., and there was a time when we had to give him as much as 100 units in one day. We also had to take him to Touro so that he could not get food on the outside. He has not grown and his weight has increased slightly in the two years.

For a while he was thought to have a pancreatic lesion. There was at one time a decided prominence of the abdomen and I think I made out some ascites at the time of his admission a year and a half ago. His mother keeps a candy store and it has been too much for this youth. Twice he has been on the verge of diabetic coma and I have seen him where you could smell the acetone fifteen feet away in a closed room. The lack of discretion would cause an increase in the blood fat. We have had some investigations made which give us a rather higher figure than the range of normal. The lesion was unknown to anyone excepting his family. The diagnosis of xanthoma is beyond question and we had to get the whole faculty to arrive at it. In my previous experience with diabetes I have not seen anything like this picture; it surpasses anything in extent I have seen in a diabetic. The little fellow has had a standard diet; it is easy to make up, all prepared on a little card and easy to get it across to anybody. It is one of Joslin's formulas, which has proved of considerable use: carbohydrates 52, proteins 32 and fat 66. The protein is a little low. Today he has had that diet and thirty units of insulin t.i.d. Just before this meeting he had a slight insulin reaction. The plan will be to keep him on the verge of that; keep him on the lowest blood sugar. He has improved considerably and the lesions are absorbing rapidly under that plan. It seems an enormous dose of insulin to give a boy of this size; yet we get only a slight reaction on 90 units of insulin. We will probably have to reduce the dose. The probabilities are that he will improve and we will be able to calibrate. Thus far we have been unable to do it on account of the varying amounts of carbohydrates the boy has been having. He has cheated consistently and if we can get him to where he will take about the same number of carbohydrates we will

have an approximation at standardization. The thing about him is he is a growing child and we are looking at him with a great deal of interest in the hope of maintaining his growth while continuing the insulin treatment on a standard basis.

Dr. P. H. Jones: Dr. Hopkins wants me to say something about the character of the serum; it was about the color of milk, had a yellow tint and was as thick as fat.

Of two Wassermann reactions, one was anti-complementary, the other negative; the negative Wassermann followed after he had been on a larger dose of insulin, which would probably have some effect on the amount of fat in the serum. The blood cholesterol report that we had, indicated a rather high normal and it has appeared that physiological chemists regard cholesterol as an index of the amount of fat in the serum. This patient came very near being sent to the Rampart Street Isolation Hospital. The appearance of the lesion stimulated small pox to such an extent that when the patient gave the history of having the eruption for three weeks we frankly discounted his statement to three days. But he was lucky enough not to have lesions on the face, so we were sufficiently stimulated to call in counsel and arrive at a more convenient and correct diagnosis.

Dr. F. M. Johns: I have seen several of these very severe cases of diabetes and I think I have seen one case like the one Dr. Jones described—in fact, I was so worked up over it that I went to Dr. Joslyn for enlightenment. He explained it so easily and simply that I thought it would not be remiss to repeat his explanation: "Fats only burn in carbohydrate fire and if your carbohydrate fire is at zero there can be no proper oxidation of fat, hence a residual of fat in blood. The two must oxidize together."

Dr. R. Hopkins (closing): Answer to Dr. Danna's question:

The diabetic lesions are far too numerous for the employment of the usual local therapeutic agents: this child has several thousand. The lesions are essentially benign tumors some of which are undergoing degeneration. The only local treatment in the cases of the usual type which occurs on the eyelids is destruction of the tumor mass; using any of the various methods in common use: the electric cautery, electric needle, surgical excision, etc. There is nothing that we know will create absorption of the tumor mass on the eyelids, it must be destroyed. The lesions of the diabetic type on the contrary usually disappear under treatment of the diabetes.

PRESENTATION OF THREE CASES OF
DIABETES MELLITUS.*Dr. J. Birney Guthrie*

My excuse for the three-fold presentation tonight is that diabetic patients are all different and very nearly all show something of peculiar interest.

Case 1. This patient is perfectly able to walk around and perform any of the ordinary tasks assigned to her. She is in the ward now for her education. She has not much intelligence, but even with this low grade mentality has always made a living. She lives in the country and when admitted to the hospital on the fifteenth of October was in a diabetic coma, not complete, but in a semi-comatose state, breath reeking with acetone, and presenting all the symptoms typical of this condition. Blood sugar 500 mg. per 100 c.c. Sugar and acetone in the urine, but the quantity of sugar was not estimated. She was put to bed, kept warm and within 48 hours given 200 units of insulin without glucose. The other treatment was fluids, normal saline intravenously and by a Murphy drip. Blood sugar at 500 does not need any glucose and it seems not only a foolish but a hazardous thing further to burden a patient with a product which is acting as a poison. I cannot see (with a blood stream showing 500 mg. of sugar per 100 c.c., an excess, and very marked excess of normal) the necessity of unnecessarily prolonging that tissue bath of glucose by introducing further glucose into the blood stream. She came out nicely at the end of twelve hours, breathing was better, and after forty-eight hours woke up feeling "fine." The following day she had a slight reaction, blood sugar down to 148, second day 190. During the first 24 hours 100 units of insulin, the second 24 hours another 100, then after 48 hours 65 units of insulin. The third day there was a slight reaction and the day following a slight reaction of hypoglycemia.

On the third day she was given a diet of 14 carbohydrates, 17 proteins and fat 34. Insulin 65 units. On the fourth day we established a regime of diet for this woman, Joslin's maintenance diet No. 5, C. 52, P. 32, F. 66, which is our routine dietary, a little low in protein perhaps but **on the whole** very satisfactory and which has not been changed up to the present time. Since the 18th of October there has been no change in either the diet or insulin dosage: carbohydrates 52, proteins 32, fats 66; insulin 65 units.

Her appearance is that of the average woman of her age, she feels stronger and better than in some months previous to admission and she can go on indefinitely in this way. There was no trouble

in handling this patient, she has taken the 65 units of insulin and adhered to the diet. Before discharge we will probably raise the protein allowance 10 or 15 grams with a small addition of insulin.

Case 2. This patient is on the same diet exactly. She has high blood pressure, arteriosclerosis, and gives a history of ulcer, furunculosis and weakness. She is just an old woman with a chronic diabetes, no immediate menace to her, except as the months go on her condition is one of slow retrogression as a result of hyperglycemia and low grade sepsis.

Although on this maintenance diet (Joslin's No. 5) and 30 units of insulin t.i.d., her blood sugar has continued to fluctuate up and down, always higher on Monday and dropping during the week. An interesting feature of this case is that we accomplished a very considerable drop in her blood sugar by showing her a case of moist gangrene, a horrible stinking case, explaining that this was the result of neglect to carry out the directions that had been given. Now she has seen the light and she stops taking extra food. Today, Monday, her blood sugar is 86. The Sunday visitors may have brought her candy, but she did not eat it.

Case 3. This patient represents a different type, one of a series of cases I have had, most of which have not been able to get the best in the way of treatment. She came in with multiple abscesses, all set for a very severe septic battle with the infecting organisms. On her buttock she had an abscess almost as big as my hand and one of my surgical friends advised keeping her in the medical service. So we handled it there upstairs and evacuation of the abscess was done in a medical service. The point to be emphasized (and the reason why I brought this woman here tonight) is that in handling a medicosurgical case, perfect accord must exist with regard to the treatment. It is most difficult to effect a liaison between the internist and the surgeon. It is not a question of personality. It is a case of getting together on the management.

We gave this patient varying doses of insulin, gradually increasing the dose and she suffered several severe reactions. As regards the so-called insulin shock, the more I see of these cases, the more I believe there is something analogous to living in a perverted atmosphere—the cells become accustomed to living in a perverted state and any sudden change to normal sugar levels is associated with a certain amount of shock. As we withdraw the sugar from the blood stream we have the shock.

We have to go carefully with this patient and have succeeded in reducing the sugar from 350

mg. per 100 c.c. to 172. She came in about the middle of October and we have only been able to get her down to 172, but we have to go on. Her wounds are healing fast and at that rate she is overcoming this sepsis. I do not know whether it would interest you to see that abscess of the buttock. The surgeons are laughing at my exhibiting a surgical case.

This is a case where insulin does not work with its usual effectiveness. One must forget the amount one is using and regulate the dosage to accomplish a reduction of the blood sugar. In this case, we must go carefully to avoid a case of insulin coma. The method of procedure is to get slight reactions from time to time. I believe in a couple of weeks we will be able to show this woman with a practically normal blood sugar.

PRESENTATION, BY X-RAY AND SPECIMEN,
OF A CASE OF ANEURISM OF THE
ASCENDING AORTA.

Dr. A. E. Fossier

Demonstration of Specimen by Dr. Gondolf.

When we opened up the chest we found the heart with this aneurismal sac and the right lung bound together. The right lung was bound by dense fibrinous pleurisy so that the parietal and visceral pleura were bound together, absolutely obliterating the pleural cavity. I took the whole thing out en masse; this specimen is all that we removed. The left lung showed a few fibrous adhesions and emphysema. The liver and spleen showed marked passive congestion.

This aneurism is a tremendous aneurismal dilatation of the entire ascending aorta; the arch is in pretty good shape—no dilatation present. As stated, the aneurism starts at the aortic ring. You can see the valve coming right out into the sac and you can get a good view of the vessels as they come off the arch. It is a pretty specimen. There is a similarity in the picture presented to those cases which have been reported as aneurism of the left auricle, the lung acting as a protection to the aneurism. In this particular case it does the same thing. The sac extends to the right until you have barely one-half inch of lung tissue and pleura, so that it gave very much the same impression of the cases that had been reported of aneurism of the left auricle.

A PROBABLE CURE EFFECTED IN PRIMARY
SARCOMA OF THE SPINE WITH
X-RAY AND COLEY'S TOXIN.

Dr. H. Theodore Simon

This is a case of primary sarcoma of the cervical spine. I have shown this little girl before

the Hotel Dieu Staff on several occasions, following up the case as we progressed, arriving finally at the stage where we believe a probable cure has been effected. Covering all the available literature on the subject, I find that there are only about sixteen cases reported of Primary Sarcoma of the Spine.

This child came to our attention about eleven months ago. She began to have symptoms two months prior, just a crick in the neck, later developing complete paralysis. The case at first was diagnosed incorrectly by us as tuberculosis, with this exception: the deformity present was so slight, from a clinical examination, and the paralysis so marked, that it looked as if we were dealing with something other than tuberculosis. In following the case further we found a tumor instead of tuberculosis.

(Roentgenograms, taken before and during treatment, were here shown by Dr. Simon.)

First Plate: Shows complete absorption of spinous process, also marked absorption of the right transverse process and the right lateral portion of the body of the 3rd cervical vertebra.

Second Plate: A roentgenographic study while under treatment.

At first we considered it a practically hopeless condition but gave deep X-Ray therapy and Coley's toxin. She received three courses of deep X-Ray therapy, and daily doses of Coley's toxin until we have gotten to where we consider the condition dormant.

The plates now indicate an ossification of this tumor mass. In the beginning the child's improvement was slow, but she gradually regained control of all the muscles until complete restoration of normal function. The only abnormality is a slight exaggeration of the knee jerks. In the first stage there was complete paralysis, marked perversion of sensation, and the patient was unable to move even a finger or toe. It was at this time that Dr. Otis saw her.

Third Plate: Here are two views of the mass, one a lateral view, showing a very dim outline, the other a denser outline as the condition improved. As the treatment continued and we thought we were getting improvement, the outline became more dense.

Coley reports such a case in 1901, in which Coley's toxin alone was used. Most of the reported cases have died and were autopsied.

I presented this case on account of the rarity of the condition and the remarkable improvement. She walks and gets around quite actively

(demonstrated by patient walking across the room). There is no destruction in the neck, only a small mass can be felt, which is disappearing gradually.

DISCUSSION.

Dr. C. F. Gelbke: I saw this young lady early in September, 1925, and she presented a mass that looked typically tubercular. The mass was particularly in the soft part of the neck; did not complain of pain. The X-Ray came back as "a tubercular condition of the vertebrae." I applied a plaster collar and she wore it with apparent comfort and relief, but when I left she was taken with severe pain and the collar was removed. She presented a typical case of tuberculosis of the cervical glands involving the soft parts of the neck.

Dr. W. J. Otis: I saw this case shortly after Dr. Simon and at that time she gave all the symptoms and signs of compression more than a destruction; there were hyper-exaggerated K. J.'s and A. J.'s and marked perversion of sensation, to the tuning fork, i. e., on test there was a burning instead of vibration. Heat and cold tests were dismissed, there was cold and clamminess about her body, her facial expression was cachetic and she was practically helpless. I would insist on her doing things, but she could not. I found no reaction of degeneration as such and there was evidently none, as you saw her walk around tonight. The symptoms are entirely compressive.

This case is a splendid illustration of a beneficial result obtained through the prompt and early treatment of a spinal growth, by deep penetration over a wide area without delay.

Dr. J. A. Danna: I saw this little girl, not as a patient, but having to go in the ward every day, and remember her as she first appeared. The contrast is so marked I cannot help but comment on it. She lay with her limbs rigid and could move a little bit to one side. The only thing she could do really well was smile—this she still does. From this state she has gradually improved to the condition in which you see her.

We should never consider a case of malignancy beyond hope until the patient fails absolutely to respond to any treatment. Ordinarily you see a case of this type, a diagnosis is arrived at and you say: What can I do here? But persistence in treatment will every once in a while give you a result like the one before you.

I congratulate Dr. Simon on his persistence in carrying out both X-Ray and Coley's toxin to the point of getting results.

Dr. H. T. Simon (closing): I have nothing further to add except to corroborate Dr. Gelbke's

findings, an indurated mass in the neck and, aside from the marked paralysis, indicative of tuberculosis. If this case had been the ordinary type of paralysis, we probably would have gone on and treated the case as tuberculosis.

A QUICK AND EFFICACIOUS TECHNIC FOR THE RADICAL EXCISION OF VARICOSE VEINS.

Dr. J. A. Danna

In showing you this patient on whom I have done a varicose vein operation, I wish to make a plea for radical dissection in these cases. The objection to a radical dissection of a bunch of varicose veins is that it takes a very long time, is a very big operation, etc. The method employed in this case saves a great deal of time and makes it quicker than some other procedures.

This patient gives a history of a similar condition of the left leg for which a Schede operation was performed August, 1918. The operator must have cut the veins, but examination showed that, in spite of that fact, they had reproduced across the gap and the varicosities were almost as pronounced on the left side as on the right.

Procedure: A constrictor was first applied to the thigh so as to compress the veins, not the arteries. As the veins stood out prominently they were outlined. (You see the length of this incision, the dressings have not been touched since the operation; nor will they be disturbed again until the sutures are removed). After outlining the veins the constrictor was removed, the foot raised and limb emptied of blood. The tourniquet was reapplied to arrest the arterial flow, the limb sterilized and the operation proceeded with. We started above and continued right straight on down, dissecting the main trunk as we went along and following the main branches as far as we could. In this case we had very few large trunks. We outlined and removed two areas in each of which was a large bunch of varices from which he probably suffered. Even with the constrictor on there was some ooze, and every time we cut a vein we clamped it to keep the field clear—you cannot work as fast in a bloody field.

Having finished dissection, the wound edges were approximated with a button-hole linen stitch, removing the clamps as they were reached by the suture. The operation completed, we put on this dressing, supplementing it with a thin layer of cotton batting and then a roller bandage. The constrictor was on all the while.

Excepting the ligation of upper and lower ends of vein where excised, not a single ligature was used. You can save time by not catching the vessels, but as there is always blood in the veins despite the constrictor, it gives you a blurred field. Better then to catch the vessels—you see better, work faster and in this way are more than compensated for the slight loss of time through applying forceps to control oozing. But no ligatures are used.

I show this case for two reasons:

The First: To advocate a clean dissection as against all other operations. I have done practically all the others, including the Schede, which method I practiced consistently for some time, and obtained some excellent results. Later, results not so good made me quit using it.

The Second: It has this advantage. Any operation where you make transverse cuts interferes with the lymph flow. Of course if you have a short incision you do not do very much harm. This method interferes less with the lymph flow than any other operation.

This patient was operated two days ago on Saturday, November 6th. Ten days after operation he will be able to get up and walk around. I do not think he could do that if any other type of operation had been performed.

INFECTION OF INJURED TOE, THE RESULT OF DRESSING A SYPHILITIC LESION FIRST AND THE TOE AFTERWARDS.

Drs. Reed and Wolf

This is a case under anti-leutic treatment, who gives a history of having a sore develop on the

penis, which rapidly grew, attaining a considerable size by the time he was admitted to the hospital for treatment. Four weeks after the sore appeared he had an accident, injuring his big toe, and in attempting to dress it, after having dressed his penis, the toe became infected, so when he first came under our observation we thought he had a granuloma of both the penis and the toe. The sore on the penis was about the size of a dollar, indurated, surface glistening with a tendency to bleed and the inguinal glands were not enlarged. The lesion was scraped, and smears and sections taken for granuloma—no Donovan bodies were found. The Wassermann was strongly positive, and he has since that time been under anti-leutic treatment. The lesion on the penis is rapidly getting better and the one on the toe is also getting better.

Evidently this is a mixed chancroidal and leutic infection, the lesion first developing in the usual place on the penis with resulting infection of the toe by handling the penis first and the toe afterwards. He has had two doses of salvarsan. The penile sore is now about half as large as at the time of admission and the toe also is getting better; both lesions are gradually disappearing. No skin lesions were present, and there was nothing to indicate a syphilitic infection except the primary lesion of the penis and associate lesion on the toe.

DISCUSSION.

Dr. P. Gelpi: Q. I would like to ask Dr. Reed if there was much induration of these sores?

A. Yes.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

SPECIAL ANNOUNCEMENT FOR THE ANNUAL MEETING OF THE LOUISIANA STATE MEDICAL SOCIETY.

New Orleans, April 26, 27 and 28; House of Delegates, April 25.

The Orleans Parish Medical Society, through its Arrangement Committee, extends a most cordial invitation to all members of the Louisiana State Medical Society to be their guests at the approaching Annual Meeting. As hosts to the Louisiana State Medical Society, the physicians of Orleans Parish looks forward with pleasure to again renewing friendships with their out of town confreres.

In keeping with the steady progress of the State Society, our committee is planning to offer to the State Society the best program ever presented at an Annual Meeting. We anticipate with increased interest in Scientific Work and added strength of the State Society, the largest attendance in our history. Let us call your attention to a few salient features of the program.

The headquarters will be at the Roosevelt Hotel, which you know is the last word in accommodation and hotel construction. The President's Reception on April 26th at 8:00 p. m. will be in the Tip-Top Room of the Roosevelt, as also the Annual Dinner on the evening of April 27th.

The Chairman of the respective scientific sections have not only been fortunate in having on their program some of the best physicians and surgeons of the State, but several of the most prominent medical men in this country. The papers offered by these noted physicians will repay you for your trip to New Orleans.

Under the able supervision of Dr. Isidore Cohn, hospital clinics will be held on Monday, and at some other date which may be found available. Though it is but two years since the Society met in New Orleans, our surgical and medical opportunities have been considerably enhanced by the addition of several large modern hospitals. The meeting will offer an opportunity for a thorough inspection of these modern institutions, in addition to enjoying the unusual facilities of the older ones.

Furthermore, to add interest to the progress of science in our medical circles, an unusual Scientific Exhibit is being arranged under the careful guidance of Dr. R. H. Potts. From the activity displayed by him and the Committee, you may rest assured that you will have the oppor-

tunity of visiting one of the most complete and practical scientific exhibits. This will serve for your enlightenment during the spare moments when one is not engaged with the regular scientific program.

The plans of the social entertainment are in keeping with the intensification of the scientific opportunities. Luncheon on Monday at the French Hospital; Tuesday at the Hotel Dieu; Wednesday, Baptist Hospital, and Thursday, the last day of the meeting, will find us the guests of the School of Medicine of Tulane University. On Wednesday night the Annual Dinner will be given, which I am sure will furnish to each and every one much pleasure and entertainment.

While there is ample opportunity of keeping every one busy with the Scientific Program, those desirous of healthful diversion will find it in the Golf Tournament being arranged for those who are anxious to display their ability in this famous sport. Under the guidance of Dr. Val Fuchs, the details of same are being rapidly completed. Beautiful cups, prizes and other awards will be in store for the fortunate golfer.

After one indulges in this intensive scientific program, and enjoys the social entertainment, which is bound to be destructive to our reserve nervous energy, there is being planned a Post-Convention Cruise to Havana and LaCeiba. This is a beautiful trip offered by the Standard Fruit and Steamship Company, at such reasonable rates that I feel certain quite a number of our physicians will be desirous of availing themselves of this unusual opportunity. More specific details concerning this cruise will be carried in the Journal.

While the above recitation of the plans for Annual Meeting is for the purpose of entertaining the physicians, the lady guests may be assured that unusual plans will be developed for the entertainment of all those who honor us with their presence. The details of this feature of entertainment will be carried in the Journal and official program.

We would ask that you make your plans early to be with us on the above occasion. We are looking forward with the greatest pleasure to having the State Society with us again.

Let only the unusual interfere with your attendance.

E. L. LECKERT, M. D.,
Chairman, Committee on Publicity.

SPECIAL NOTICE.

Special attention is directed to a Post-Convention Cruise offered by the Standard Fruit and Steamship Company to Havana and LaCeiba. Special rates have been made for this occasion, \$110 to LaCeiba, and \$75 to Havana.

Other than serving as a recreation, as a scenic viewpoint there are many attractions in the form of beautiful hospitals and medical centers.

Boats will leave New Orleans on Saturday following the meeting, April 30th. Those desirous of availing themselves of this trip will communicate with the Secretary-Treasurer, 1551 Canal Street, or directly to the Standard Fruit and Steamship Company, Union Indemnity Building, New Orleans, La.

CONVENTION CLINICS.

For the first day of the meeting of the State Medical Society, coincident with the meeting of the House of Delegates, the Clinic Arrangement Committee is making an effort to prepare surgical clinics, bedside diagnostic conferences, and clinic lectures. Each of the hospitals has been asked to prepare a program. From the replies received the prospective hospital programs should prove of great interest. It is also hoped that the various laboratory departments will be able to give demonstrations on interesting topics, such as recent electro-cardiographic studies, and important observations from the Department of Physiology, and other of the fundamental scientific departments of the university.

It is hoped that the members of the Society, other than the members of the House of Delegates, will avail themselves of the clinic program which is being arranged for their entertainment.

Announcement in next month's Journal, relative to the exact program, will be made. Watch for the announcement.

ISIDORE COHN,

Chairman, Clinic Arrangements Committee.

ST. MARY PARISH MEDICAL SOCIETY.

The St. Mary Parish Medical Society has elected their 1927 officers as follows:

President—Dr. L. B. Crawford, Patterson, La.

Vice-President—Dr. C. M. Horton, Franklin, La.

Secretary-Treasurer—Dr. A. C. Kappel, Franklin, La.

Delegate—Dr. C. C. DeGravelles, Morgan City, La.

Alternate—Dr. Homer Gates, Franklin, La.

LASALLE PARISH MEDICAL SOCIETY.

The LaSalle Parish Medical Society (Physicians Improvement and Protective Association) met at Olla, Standard High School Building, January 6th, 2:00 P. M.

Called to order by Dr. Thomas M. Butler, President. Excellent attendance of both active, honorary members and visiting physicians.

Annual election of officers: Dr. Thomas M. Butler, of Trout, was re-elected President; Dr. J. P. Durham, Trout, Vice-President; Dr. W. V. Taylor, Olla, was re-elected Secretary-Treasurer. The President-Elect appointed the board of censors as follows: Dr. R. B. Taylor, Kelly; Dr. O. F. Matthews, Urania; Dr. G. P. Smith, Zenoria; Dr. W. V. Taylor re-elected delegate and Dr. H. S. Holloman, Standard, Alternate, to the Louisiana State Medical Society.

The Scientific Program was a lecture by Dr. H. W. Kostmayer, Tulane Graduate School of Medicine, on "Some Non-Surgical Gynecological Procedures." The lecture was very greatly appreciated and enjoyed. Dr. Kostmayer made a place for himself in the hearts of those fortunate enough to hear him. It was possibly the best, most instructive, and illuminative lecture or paper ever delivered to the Society, greatly increasing our fund of knowledge.

Next meeting will be at Urania, March 3rd, 2:00 P. M. After adjournment, banquet at Domestic Science Hall, prepared by the Domestic Science teacher, Miss Ethel Whels. O Boy: that was some feed.

LAFAYETTE PARISH MEDICAL SOCIETY.

Members of the Lafayette Parish Medical Society met at the Terrace Hotel, Thursday night for a well attended banquet and the Annual Meeting of the Society, at which officers were elected and a delegate and alternate named to the Annual Convention of the State Medical Society, which will take place in New Orleans sometime in April.

Dr. E. E. Guilbeau, of Carencro, was elected President for the New Year; Dr. C. E. Hamilton, Lafayette, elected Vice-President; Dr. Harold G. F. Edwards, Lafayette, re-elected Secretary-Treasurer, and also elected delegate to the State Meeting, with Dr. F. R. Tolson, of Lafayette as alternate. Several important matters pertaining to the work and plans of the society were taken up during the evening, announcement of which is planned for a later day.

TERREBONNE PARISH MEDICAL SOCIETY.

Terrebonne Parish Medical Society 1927 officers are:

President—Dr. R. W. Collins, Houma, La.

Vice-President—Dr. I. I. St. Martin, Houma, La.

Secretary-Treasurer—Dr. P. E. Parker, Houma, La.

Delegate—Dr. P. E. Parker, Houma, La.

Alternate—Dr. R. W. Collins, Houma, La.

LAFOURCHE VALLEY MEDICAL SOCIETY.

The regular meeting of the Lafourche Valley Medical Society was held February 9th in Thibodaux, La. There was a splendid attendance of members from the Parishes of St. Mary, Terrebonne, Lafourche, Assumption and Ascension. Papers were read by Dr. T. I. St. Martin of Houma, and Dr. Frank T. Gouaux of Lockport.

The election of officers resulted as follows:

President—Dr. D. T. Martin, Donaldsonville, La.

Vice-President—Dr. Chas. J. Barker, Thibodaux, La.

Secretary - Treasurer — Dr. Chas. S. Roger, Napoleonville.

A wonderful supper concluded the evening program. The next meeting will take place in Donaldsonville.

Dr. A. F. Gates, one of the best known physicians of Tangipahoa Parish, died at Hammond, Louisiana, February 3rd, 1927. Dr. Gates was born September 30, 1872, and for the past twenty years or more resided in Hammond.

Prof. Aldo Castellani, head of the department of tropical medicine at Tulane, recently announced, upon his return from England, that arrangements had been made with the Ross Institute of London whereby an exchange of students between the two schools had been perfected. Students from Tulane who wish to carry on research in certain fields of tropical medicine will be sent to the Ross Institute and research workers from the Institute will come to Tulane. This wonderful piece of good fortune for Tulane men comes only through the fact that Prof. Castellani is also honorary director of the Ross Institute.

The Board of Administrators of the Tulane Educational Fund has announced the prompt

erection of a new twelve-story Tulane Medical School and Hospital, to be located at the corner of Tulane Avenue and Howard Street, just across the way from Charity Hospital. The building will cost in excess of \$1,500,000. The University Out-patient Department will most probably take over the hospital clinics of Charity. This plant, when completed, will unquestionably make the Tulane Medical School the outstanding institution of the South.

**DOCTOR OCHSNER APPOINTED BY TULANE
UNIVERSITY TO SUCCEED DOCTOR
RUDOLPH MATAS.**

Announcement has been made by the Board of Administrators of the Tulane Educational Fund of the appointment of Dr. Edward William Alton Ochsner, from the University of Wisconsin, Madison, Wisconsin, as Professor of Surgery and Head of the Department of Surgery in the Tulane School of Medicine, to succeed Dr. Rudolph Matas, who resigned last year, the resignation to become effective upon the appointment of his successor.

Following the resignation of Prof. Matas last year the General Education Board of the Rockefeller Foundation, upon the appeal of the Tulane Medical School authorities, made an annual appropriation of a considerable amount of money to permit the placing of the Department of Surgery more nearly on a full time basis and the appointment of Dr. Ochsner is the first step in putting this into effect.

Dr. Ochsner is a native of South Dakota. He is a graduate of the University of South Dakota, with the degree of Bachelor of Arts, and of the Washington University Medical School, St. Louis, with the degree of Doctor of Medicine. He also served as intern and as assistant resident in Barnes Hospital, St. Louis, under the eminent Dr. George Dock, who was Professor of Medicine at Tulane from 1908 to 1910. He served his surgical internship in Augustana Hospital, in Chicago, under the famous surgeon, the late Dr. A. J. Ochsner.

In addition to his training in America, Dr. Ochsner has had experience as surgical assistant under Professor Clairmont, famous surgeon in the University of Zurich, Switzerland, and further experience as surgical assistant under another famous surgeon, Prof. Schmieden, in the University of Frankfurt, Germany. He has also visited, for short periods, most of the prominent surgical clinics of Europe.

After returning from Europe, Dr. Ochsner engaged in practice in Chicago, during which time he was an instructor in surgery and in surgical

pathology in Northwestern University. This he gave up to go to the University of Wisconsin Medical School, as assistant Professor of Surgery, which position he holds at the present time.

Although only in his early thirties, Dr. Ochsner has already published more than a dozen articles dealing with surgical problems. He is deeply interested in research and in medical education, and is attracted to the position here by the great opportunities which New Orleans and Tulane offer for great accomplishment in the broad field of medicine. The rapid growth of the city, together with the progressive developments now taking place in the Tulane School of Medicine, and those contemplated in the near future, added to its existing prestige, insures that this will become one of the foremost centers for medical training and research in America.

Dr. Ochsner brings with him, to an unlimited field, the progressiveness of the westerner, the ambition, energy and vigor of his Swiss ancestry and an unusually favorable experience and training in America and Europe. He and his family will come to Tulane as soon as he can be released from his duties in Wisconsin University. In the meantime, he is in New Orleans now on a short visit acquainting himself with the work of the surgical department and of the school.

Just after the first of the year Dr. R. C. Lynch, the head of the Department of Oto-Laryngology of the Graduate School of Medicine of the Tulane University of Louisiana, attended the meeting of the Eastern Section of the Triological Society which met in Brooklyn, New York, under the Chairmanship of Dr. H. Arrowsmith, and on January 8th, the Council Meeting of the Triological Society in New York City.

While North Dr. Lynch was invited by the New England Oto-Laryngological Society to be their guest of honor at a reception and address the members at their annual meeting and dinner on January 10th, 1927, at the University Club, Boston, Mass., on which occasion he delivered an illustrated lecture on "Cancer of the Larynx."

The ovation received by Dr. Lynch at this meeting is sufficient evidence of the high esteem in which he is held by members of the Association.

Dr. Chas. J. Bloom, Professor of Pediatrics of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the Rapides Parish Medical Society on "Adenopathies and the Allied Conditions of the Chest" at their meeting held at Alexandria, La., on Monday, February 7th, 1927.

Dr. Muir Bradburn, Assistant Professor of Clinical Surgery of the Graduate School of Medicine of Tulane University of Louisiana, addressed the members of the Washington Parish Medical Society on "Fracture Problems" at their meeting held at the Elizabeth Sullivan Memorial Hospital, Bogalusa, La., January 27th, 1927.

Dr. Noble M. Eberhart, of Chicago, has agreed to give a series of lectures on Diathermy beginning March 7th, 1927, at the Hutchinson Memorial, 1551 Canal Street, New Orleans, and physicians throughout the State or city, desirous of attending these lectures, are welcome.

The National Board of Review held its "Better Film Conference" at the Waldorf Astoria Jan. 27, and in a composite film entitled "Thirty Years of Motion Pictures" depicted many of the recent improvements in the film industry. Perhaps the most spectacular feature of this film was that portion which showed how motion pictures are being used in medical education.

A remarkable advance in the study of diseased organs attributable to this new application of motion pictures to medical subjects consists in the ability to take both still and motion pictures of the interior of various organs which have hitherto been inaccessible to such study. The device by which this is attainable is the invention of Dr. J. F. Montague of the University and Bellevue Hospital Medical College Clinic. It consists in a thin metal tube within which are placed both the lighting apparatus and a series of lenses resembling a microscope. The actual camera used is one of the type now so popular among amateur movie fans.

A very interesting application of the device is as follows: Motion pictures of the interior of certain organs such as the intestines are taken when the patient first comes to the hospital and similar pictures are taken at weekly intervals while the patient is under treatment. Then by patching these strips of film together and running them on a projecting machine the case can be seen to get well before your very eyes in but a fraction of the time actually required for the healing process. A special advantage of this can be readily understood since it furnishes an accurate record of the changes to be found and eliminates all guess work as to whether or not the patient has improved since the doctor no longer has to rely upon memory but by comparing the pictures can have accurate means of judging the changes. Dr. Montague predicts that within a few years there will be no medical school in America that

will remain unequipped with means for illustrating clinical work with the aid of motion pictures.

\$100,000 OFFERED FOR CONQUEST OF CANCER.

Two prizes of \$50,000 each have been offered by William Lawrence Saunders of New York for discoveries of the causation, prevention and cure of cancer. The offer was made on December 15, 1926, and will stand for three years. The donor expects to renew it, if necessary.

Mr. Saunders is Chairman of the Board of Directors of the Ingersoll-Rand Company, Director of the Federal Reserve Bank of New York and President of the United Engineering Company.

The decision upon which the awards will be made is to be reached by the American Society for the Control of Cancer and approved by the American Medical Association and the American College of Surgeons.

It is Mr. Saunders' idea that discoveries are not always made by experts and that "through the lure of a reward this serious problem might be solved through the genius of a lay mind, by chemists or through unorganized medical sources."

The offer of Mr. Saunders to the American Society for the Control of Cancer has not yet been formally acted upon by the Society, and it is impossible to say at this time what rules other than those proposed by Mr. Saunders will control the decisions. Information as to how persons who wish to present their discoveries for consideration should proceed will be announced later.

Mr. Saunders made his offer known through a letter to Dr. C. N. B. Camac of New York under date of December 13, 1926, and read by Dr. Camac at a dinner given in the interests of the American Society for the Control of Cancer by President Nicholas Murray Butler of Columbia University and Honorable Charles Evans Hughes.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE:

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:

At Washington, D. C. May 2, 1927
At Chicago, Ill. May 2, 1927
At New Orleans, La. May 2, 1927
At San Francisco, Cal. May 2, 1927

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

AMERICAN BOARD OF OTOLARYNGOLOGY.

The following examination dates have been assigned by the American Board of Otolaryngology;

Washington, D. C.—Episcopal Eye, Ear and Throat Hospital, Monday, May 16, 1927, at 9 o'clock.

Spokane, Washington—Saturday, June 4, 1927, at 9 o'clock.

UNITED STATES PUBLIC HEALTH SERVICE.

The Weekly Public Health Reports of the United States Public Health Service are now available to all persons in the United States and its possessions, Canada, Cuba, and Mexico, for the nominal subscription of \$1.50 per year, it was announced in the current issue of the official bulletin of the Post Office Department.

The announcement states that these reports will be sent with postage prepaid to each subscriber, and represents an innovation by the Public Health Service further to increase knowledge about public health and sanitation. These reports contain information as to the world prevalence of disease, and each issue has special articles by experts on sanitation.

Subscriptions should be accompanied by money orders, and sent to the Superintendent of Documents, Government Printing Office, Washington, D. C.

VACANCIES IN VETERANS' HOSPITALS. *Physiotherapy and Occupational Therapy Aides Urgently Needed.*

Washington, D. C., February —, 1927.—The United States Civil Service Commission states

that a number of hospitals of the Veterans' Bureau are solely in need of occupational therapy aides in arts and crafts, agriculture, and trades and industrial occupations, and also physiotherapy aides, pupil aides, and assistants. These workers are needed in considerable numbers in connection with the rehabilitation of disabled soldiers and sailors.

It is stated that examinations for these positions are now open. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board at the post office in any city.

FOREIGN CRUISE FOR DOCTORS.

The success of the Vandyck Cruise to the South American countries, arranged for the Fellows of the American College of Surgeons and their families in the spring of 1923, has brought forth many inquiries as to when and how such a visit may be repeated. These queries have culminated in a plan by Thos. Cook and Son, who conducted the Vandyck Cruise so satisfactorily, for a much more comprehensive trip for the early spring of 1928, which is late summer in the southern latitude and an ideal time to visit that part of the world.

The contemplated cruise will include the east coast of South America, South Africa and East Africa, the Mediterranean borderlands, and if desired Northern Europe. The plans include general sightseeing on shore, with every facility for covering all points of interest that are usually accessible to travellers.

There will be a series of interesting scientific meetings in the important medical centers, visits to the hospitals and medical schools, and provision for personal freedom and ample time for sightseeing and entertainments. It is anticipated that our people will be entertained by the government officials in the same interesting manner as were the Vandyck passengers.

Every precaution has been taken to obtain a ship which is new, the SS. Volendam, which has every facility for South American and South African de luxe passenger service. The ship will be reserved for our exclusive use, and if desired

may be used by the passengers as a hotel while in port without the extra expense. There will be plenty of room, as freight, second-class and steerage services will be precluded.

Each member of the College may extend to one other couple the privileges of the cruise. Deck plans and other available information regarding the cruise will be sent to you upon request, either from the American College of Surgeons, or Thos. Cook & Son, 585 Fifth Avenue, New York City.

Dr. William Benhaw Snow, Editor of *Physical Therapeutics*, New York City, pioneer teacher of Physiotherapy, will be the honor guest at the meeting of the Western Physiotherapy Association and School, held in Kansas City, April 4 to 9. Dr. Snow will hold a clinic on Thursday, and at the annual banquet will speak on "Static Electricity in the Treatment of Pelvic Diseases."

DEATH: Henry C. Baucum, Haynesville, Louisiana; Louisville (Ky.) Medical College, 1904; member of Louisiana State Medical Society; aged 49; died December 17, 1926, of angina pectoris.

DEATH: Otis A. Biggs, Grayson, Louisiana; Kentucky School of Medicine, Louisville, 1902; past president of the Caldwell Parish Medical Society; aged 52; died January 23 of cerebral hemorrhage.

DEATH: Henry Buck, Evergreen, Louisiana; Louisville (Ky.) Medical College, 1900; member of the Louisiana State Medical Society; aged 48; died suddenly January 5.

DEATH: John Davidson Gladney, Homer, Louisiana, Tulane University of Louisiana School of Medicine, New Orleans, 1920; aged 34; died Dec. 22, 1926, of chronic nephritis.

DEATH: John Luther Wilson, Alexandria, Louisiana; Vanderbilt University School of Medicine, Nashville, Tennessee, 1889; President Rapides Parish Board of Health, and for several years member of the City Board of Health; former parish coroner; on the staff of the Baptist Hospital and one of the founders; and at one time on the staff of the Alexandria Sanatorium; aged 57; died Nov. 28, 1926, of dilatation of the heart.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

Dr. T. K. McGhee of Fernwood was killed by a fast train of the Illinois Central Railroad January 24th on the crossing in Fernwood. He was buried in Brookhaven. Dr. McGhee was surgeon for the Enochs Lumber Company at Fernwood. Twenty-two years ago Dr. Bethea was killed at this same crossing.

Dr. McGhee's death is a great loss to the profession of this State and to the State Medical Association. The Journal offers its heartfelt sympathy to the bereaved family.

At the recent meeting of the Harrison Stone Counties Medical Society the following officers were elected for 1927:

President, Dr. J. C. Jones, Gulfport.

Vice-president, Harrison County, A. F. Caraway, Gulfport.

Vice-president, Stone County, F. H. Robertson, Wiggins.

Secretary & Treasurer, Dr. J. Williams, Gulfport.

Delegate, Harrison County, D. G. Rafferty, Pass Christian.

Delegate, Stone County, S. C. Culpepper, Wiggins.

Censor, Charles LeBaron, Gulfport.

The Woman's Auxiliary of the Harrison-Stone Counties Medical Society recently entertained Mrs. Franklin Paul Gengenbach of Denver, Colorado, President of the Auxiliary of the American Medical Association, at the home of Dr. and Mrs. J. Williams at Long Beach.

The Central Medical Society elected the following officers for the year 1927:

President, E. H. Galloway, Jackson.

Secretary-Treasurer, R. W. Hall, Jackson.

Vice-presidents: Hinds County, C. R. Stingley, Jackson; Yazoo County, W. E. Noblin, Yazoo City; Rankin County, W. H. Watson, Brandon; Simpson County, A. E. Kenneday, Magee; Madison County, J. H. Howell, Canton.

Delegates: Hinds County, R. W. Hall; Yazoo County, W. E. Noblin; Rankin County, W. W.

Davis; Simpson County, E. L. Walker; Madison County, C. E. Bell.

Board of Directors. H. R. Shands, Jackson; John Darrington, Jackson; J. W. Barksdale, Jackson; George S. Atkins, Jackson; J. P. Wall, Jackson; E. H. Galloway, Jackson, and R. W. Hall, Jackson.

The Central Medical Society at its regular meeting, January 18, presented the following program:

"Scarlet Fever".....D. T. Langston
"Bronchial Asthma".....F. E. Rehfeldt
"Medical Ethics".....W. E. Noblin
"Report of a Case of Tularaemia"
G. W. F. Rembert

Dr. Julius Crisler has returned from a week's visit to Texas.

The Panola County Medical Society is now affiliated with the North Mississippi Six County Medical Society, composed of the following counties: Benton, Lafayette, Marshall, Tippah, Union, Yalobusha, and Panola, the secretary of which is Dr. Ira B. Seale, Holly Springs.

The Issaquena-Sharkey-Warren Counties Medical Society held its regular monthly meeting at Vicksburg, February 8th. The program was as follows:

"Osgood-Schlatter Disease".....Dr. A. Street
"Essential Hypertension".....Dr. H. S. Goodman

The President announced the committees on arrangement for the coming meeting of the State Medical Association convention in Vicksburg, May 10-11-12, 1927. Dr. E. F. Howard reported for his committee for a constitution and by-laws for the new society.

Dr. Henry Boswell attended a meeting of the Board of Directors of the National Tuberculosis Association on January 29, at Memphis. This is the first southern meeting of the Board of Directors.

Mr. J. Marshall, Consulting Architect of the National Tuberculosis Association, was a recent visitor at Sanatorium.

Dr. J. H. Metzger, Superintendent of New Mexico Cottage Sanatorium at Silver City, New Mexico, spent several hours at Sanatorium on Sunday, January 30. New Mexico Cottage Sanatorium has the distinction of being the oldest sanatorium in the entire Southwest.

Dr. May F. Jones is conducting a class at Sanatorium every Monday night from six to seven. This class enables patients who are interested to familiarize themselves with various phases of tuberculosis. During the week patients are invited to drop questions into a box placed in an accessible place. Each class night the various questions are answered and round-table discussion is invited. The success of this venture is attested to by the fact that the class has grown from ten to thirty members in a few weeks and shows probability of yet greater increase.

Through the courtesy of the Board of Trustees of the Mississippi State Tuberculosis Sanatorium, a special invitation is issued to all practicing physicians of Mississippi to come to Sanatorium and take special training in Diagnosis of Diseases of the Chest. Dr. C. L. Simmons of Hazelhurst is at Sanatorium at this time availing himself of this opportunity.

The Mississippi Tuberculosis Association has issued its report for 1926 on the Children's Health Camp at Biloxi.

"The second season of the Mississippi Children's Health Camp at Biloxi, Mississippi, embraced the months of July and August.

"The original site of last year was again made use of, the camp consisting of seven 16-foot pyramidal tents, one being used as a dining room, the others as sleeping quarters. All living quarters were screened, giving protection against insects. The kitchen erected last year was used this season. In addition to the original equipment, one portable cottage of one room, about 7x10 feet, well screened, was received from Poplarville, Mississippi, and set up and used at the camp.

"The qualifications for entrance of the children remained the same as last year. The age period was from 7 to 12 years, no children being

admitted who had contagious diseases or correctable defects at the time of admission. All children were, however, in need of the general up-building of their physical condition and were all under weight.

"The personnel of the Camp consisted of one medical officer in charge, a matron, a nurse, a man for general utility work, a supervisor of swimming and other play, and two cooks.

"During July there were 25 children registered at the Camp, 22 remaining the full time. On the first of August 9 new children joined, 7 being retained from the July group, making a total of 16 children for the second month and a grand total of 38.

"In general, the aim of the Camp was to improve the physical condition of the children by educational means, consisting of proper diets, adequate rest periods, supervised play, emphasizing environmental sanitation.

"Cod Liver Oil was given systematically and proved very beneficial particularly in its effect on the initial gain in weight. Children not receiving it at the beginning did not start to gain as soon as those to whom it was administered from the outset.

"It was observed that children who had had tonsilectomies six months or more prior to their entrance to Camp did much better than those whose tonsils had been removed just previous to coming to the Camp.

"The average weights gained by weeks, etc., were as follows:

4 weeks: 24 children, 97½ lbs. Average gain 4½ lbs. Highest gain 6½ lbs.

5 weeks: 1 child, 5 lbs.

6 weeks: 1 child, 5 lbs.

7 weeks: 2 children, 11 lbs. Average gain 5½ lbs. Highest gain 6 lbs.

8 weeks: 2 children, 18½ lbs. Average gain 9¼ lbs. Highest gain 10½ lbs.

Total no. lbs. gained: 137 lbs. Average gain in 4 weeks time. 4 lbs. Highest gain in 4 weeks time: 6½ lbs.

Number of children gaining average weight for age and height, 3.

Number children gaining within one pound of normal, 3.

Number children gaining to within 6% of normal, 9.

"This tabulation would seem to indicate that there are certain points in favor of the children remaining longer than four weeks at the Camp.

"Out of 36 children in Camp, 9 gained within 6% of their normal weight and five of these nine were children whose stay at the Camp was six weeks or more.

"Of these 5 children, 3 made their greatest percentage of gain after the fourth week. Of 3 children who gained the average weight for their age, 2 of them were in this group of 5 while one other, but 3 pounds underweight, easily made the gain in 4 weeks. The other two children gained respectively 8 and 10½ pounds and went over the top.

"The total fund for operation of the Health Camp was as follows:

Amount donated	\$1705.50
Paid by Mississippi Tuberculosis Association	175.00
Donation by Dr. Frederickson, paid as expenses of Camp	50.00
Total	\$1930.50

"The per capita cost per child for maintenance was \$50.88.

"In the above amounts are included all expenses entailed for the erection and demolition of the Camp.

"These expenses are somewhat higher than they ordinarily would be if all the equipment were owned by the Camp, which if this were the case would eliminate all freight and other transportation charges, and the payment of labor for erecting and demolishing the Camp."

The Tate County Medical Society announces the following officers for the year 1927:

President, William Robert Gilbert, Tyre.

Vice-president, W. D. Smith, Sanatobia.

Secretary and Treasurer, J. Sidney Eason, Coldwater.

DEATH: Oliver B. Quin, McComb, Mississippi: Medical Department of Tulane University of Louisiana, New Orleans, 1879; aged 69; died January 19 of carcinoma of the throat.

DEATH: Nolan Stewart, Jackson, Mississippi: University of Nashville Medical Department, 1886; member Mississippi State Medical Association; served during World War; connected with U. S. Veterans' Bureau; aged 63; died Decem-

ber 18, 1926, at U. S. Veterans' Bureau Hospital No. 74, Gulfport, of chronic myocarditis and dilatation of the heart.

Miss Elizabeth Kimmons, of Jackson, Miss., a graduate in oral hygiene of the Forsyth Dental Institute, Boston, Mass., was employed by the State Board of Health as oral hygienist for work in the Laurel city schools on February 10th. Miss Kimmons is a graduate of the University of Mississippi, Class of 1925, and had done secretarial work for the State Board of Health prior to taking up the study of oral hygiene.

Miss Emily McQueen, of Meridian, Miss., who taught in the public schools of that city for a number of years, received her certificate as oral hygienist at the Forsyth Dental Institute, Boston, Mass., recently, and has been employed as oral hygienist for the city schools of Meridian. Program began on February 14th.

Mr. H. Mack Fulgham, a lawyer of Jackson, Miss., was employed by the State Board of Health on December 1st as Field Deputy in the Bureau of Vital Statistics. The State Board of Health did this after a test by the Bureau of the Census in which it was found that less than 90% of the births and deaths of the state were being reported and it was realized that the state would soon be thrown out of the U. S. Registration Area for Births and Deaths, which would mean that Mississippi statistics would not be recognized anywhere. Statistics from any state not within the Registration Area are not accepted as being reliable. Mr. Fulgham was employed by the Census Bureau seven years prior to accepting this work with the State Board of Health. He holds a literary and law degree from the University of Mississippi; is a native of this state, tactful and resourceful, yet firm in measuring up to his responsibility as enforcing officer for the Bureau of Vital Statistics. Incidentally, it may be stated that he volunteered his services to the State Board of Health for the month of December without salary so much was he interested in seeing the state remain within the Registration Area for Births and Deaths.

Dr. D. S. Johnson, who has been acting in the capacity of assistant to Dr. J. B. Black, Health Officer of Hinds County, for the past year, was assigned by the State Board of Health to the Sanatorium for a three months intensive study of the diagnosis of tuberculosis preparatory to becoming full-time Health Officer of Greene County.

BOOK REVIEWS

Prenatal Care: By Ralph W. Lobenstine, M. D., F. A. C. S., and Harold C. Bailey, M. D., F. A. C. S. New York: D. Appleton & Co. 1926. (Clinical Pediatrics, v. 1.)

To many reviewers the appearance of another "system" gives rise to a distinct feeling of ennui, based on the firm conviction that we have with us enough "systems." Some of the older, more cumbersome systems are falling into disfavor because of the mass of material that one must wade through before finding the essence of what one is looking for. As a consequence, the publishing of a series of short monographs should meet with approval, provided the contributors are of recognized authority. The present series gives promise of meeting this condition.

In Volume 1 of Clinical Pediatrics we have presented in most readable fashion a complete discussion of prenatal care, beginning with the emphasis for the need of prenatal care as shown by mortality and morbidity and the prevention of fetal death. The essentials of prenatal care are dealt with in a separate chapter, as are syphilis in pregnancy, infections during labor and in the puerperal period, induction of premature labor, intrapartum birth injuries, shock following accidents of labor, early neonatal management and nursing and prenatal care from the Public Health standpoint.

The reviewer rejoices to see the care of the infant treated with proper respect and not as a bi-product of obstetrics.

L. VON MEYSENBUG, M. D.

Disorders of the Nervous System in Childhood: By Bronson C. Crothers, M. D. New York: D. Appleton & Co. 1926. (Clinical Pediatrics, vol. 5.)

Here we have a comprehensive monograph of the subject arranged in logical order, beginning with the anatomical and physiological background of diseases of the nervous system. Of especial value are the consideration of the effect of delivery upon the nervous system, the effect of infection upon the nervous system and the cerebral palsies. The volume comprises some 240 pages with many excellent illustrations.

L. VON MEYSENBUG, M. D.

The Newborn: Physiology and Care. By Clifford G. Grulee, A. M., M. D., L.L. D., and Barnet E. Bonar, B. S., M. D. New York: D. Appleton & Co. 1926. (Clinical Pediatrics, v. 2.)

"This work is a unit in the series published by D. Appleton & Co. as a presentation of the subject of pediatrics to the general profession." It is written chiefly for the general practitioner who sees by far the largest number of the newborn.

The first two chapters are given to a discussion of the normal newborn, its weight, body temperature and body proportions; and also to its mortality and the characteristics of its diseases. The next six chapters are on the anatomy and physiology of the different systems of the newborn.

Chapter X is on the care of the expectant mother and the newborn and is full of practical help, giving in detail methods of caring for the baby's eyes, of giving its bath, of administering fluids and foods. It suggests advice to be given to the new mother.

Chapter XI is on breast feeding and gives not only the needs of breast feeding but also the best method of making every mother able to nurse her own baby. Chapter XII is on prematurity and congenital debility and gives in great detail the method of caring for the premature child. The next chapters discuss asphyxia neonatorum, cyanosis, transitory fever, icterus neonatorum and haemorrhagic disease of the newborn, and give the etiology or theories of the etiology and treatments of these diseases.

RENA CRAWFORD, M. D.

The Newborn: Diseases and Abnormalities. By Clifford G. Grulee, A. M., M. D., L.L. D., and Barnet E. Bonar, B. S., M. D. New York: D. Appleton & Co. 1926. (Clinical Pediatrics, v. 3.)

In this book we have a full and complete treatise on the diseases and abnormalities of the newborn. Much work has recently been done on this subject but most of it has been published in current magazines. These volumes will then "fill a long felt need."

They are written in a pleasing, easily readable style. They will be invaluable as reference books. They will be of great aid to the general practitioner, the obstetrician and to the pediatrician.

RENA CRAWFORD, M. D.

Slit Light Microscopy of the Living Eye: By F. Ed. Koby, M. D. Philadelphia: P. Blakiston's Son & Co. 1925.

Unfortunately, every new subject must be hard before it can be easy, complex before it can be

simple; simplicity is the last milestone on the road to understanding. This is especially true of slit light or, more popularly, bio-microscopy, which can be learned from a book alone about as well as swimming. Practice and more practice are the first and last essentials to its successful application.

The slit light on which our present bio-microscopy largely depends is a small, intensely brilliant and penetrating rectangle of light which is played upon the anterior eyeball. The tissue thus illuminated is viewed by direct or reflected light with a binocular microscope capable of magnification varying from 10 to 100 diameters. In its present evolution the slit light and corneal microscope is a clumsy and costly affair which requires practically a separate room for its use, and which is of practical value in the understanding of probably one in every five hundred patients. Its grandchild in evolution will probably be a small, portable and simple hand instrument capable of more general use.

Dr. Koby has abstracted the extensive literature on the subject and combined it with his extensive teaching experience in an effort to aid the beginner in obtaining a technical knowledge of the subject. After describing the various slit lamps and the methods of examination usually employed, he takes up at some length the phenomena of light reflection. The various parts of the anterior eye are then considered and the normal and pathological findings with bio-microscopy are described in detail.

From a practical standpoint bio-microscopy often facilitates a recognition of uveal disease earlier than is otherwise possible and occasionally affords a clue to the underlying cause. Its findings occasionally help decide cataract operability.

The detailed table of contents and index as well as the elaborate bibliography make this a valuable addition, especially to the library of the beginner in bio-microscopy, which promises, in the future, to be of increasing practical value.

CHARLES A. BAHN, M. D.

Delusion and Beliefs: By C. Macfie Campbell, M. D. Cambridge: Harvard Univ. Press. 1926.

This monograph by Dr. Campbell is distinctly worthwhile, as would be expected in anything that he writes. It can be read with profit not only by psychiatrists and psychologists, but by physicians as a whole and even laymen, as it is simply written.

From a mental-hygiene standpoint, it gives a rather clear insight into many things, and will

help most of us not only in understanding ourselves but in understanding our fellows. To psychiatrists, it is a warning against the formation of opinions without giving due weight to the patient's point of view. And for those of us of the South who so frequently come in contact with the colored man, it is particularly valuable, in that we always have to consider, in judging this class of patient, the various beliefs and superstitions to which they still cling regardless of education and environment. And, frequently, we find that ideas which would cause us to arrive at a diagnosis in an educated white person are nothing more nor less than an expression of those beliefs.

E. MCC. CONNELLY, M. D.

The Modern Treatment of Hemorrhoids: By Joseph Franklin Montague, M. D., F. A. C. S. Philadelphia and London: J. B. Lippincott Co. 1926.

In giving this monograph to the profession Dr. Montague has rendered a valuable service. Hemorrhoids, especially their treatment, is one of the least understood of the more common diseases. This is proven by the frequency of complications and of occurrences following this rather simple surgical procedure; and is an important reason why his book should be widely read.

The subject is presented to the reader in a clear, concise manner, written in pleasant style, and one cannot fail but be impressed with the author's thorough knowledge of his subject, as expressed by the forceful and systematic way in which he handles it. Beginning with Definitions and Synonyms, then Signs and Symptoms, the Pathology and Examination and Diagnosis, the author carries you along to discuss most thoroughly the etiology and treatment of hemorrhoids. The different methods so clearly described are made still clearer, by many good illustrations. The last chapter, dealing with "Popular Fallacies Concerning Hemorrhoids" is full of aphorisms and in itself is worth the price of the book. The author's purpose of bringing about a better understanding of the nature, causes and treatment of hemorrhoids, will be achieved in an admirable way by a careful reading of his monograph.

O. C. CASSEGRAIN, M. D.

Preventive Pediatrics: By Borden S. Veeder, M. D. New York-London: D. Appleton & Company. 1926. (Clinical Pediatrics, v. 4.)

In this volume the subject of Preventive Pediatrics has been divided into the following sections:

1. The Growth and Development of the Child;
2. Prevention of Disease; 3. Methods.

The book is primarily intended for the general practitioner and not for the specialist. It is evident with the practitioner in mind that the author has briefly sketched many of the chapters. Perhaps the most interesting chapter in the book is the one on The Field of Preventive Pediatrics. It is here that the author gives the reader many new ideas in Pediatrics. The author discusses at length the differences between the subject of Pediatrics as such, and preventive Pediatrics. He states that Pediatrics is the study of disease itself, while preventive Pediatrics is a study of the child, and it is by this agency that we study the child in his normal growth and development. The results of this latter thought are well expressed by the author in the following sentences: "We have learned by studying the child that no small part of the definitions of normal health and development have their origin not in biochemical and biological causes, but in habits, mental reactions, and psychological conflicts. We venture the prophecy that this last field is on the threshold of being opened up and will write the next important chapter in the scientific development of Pediatrics." The subject of child hygiene is brought into discussion, and it is here that the author makes clear the differences between preventive Pediatrics and child hygiene, a subject which is very often confused. Child hygiene is the method of utilizing, or applying some of the knowledge of Pediatrics.

In his summary, the author states, "Knowledge that will enable the child to be well born, to come into the world strong and healthy, to thrive lustily and without halt during infancy, to develop and grow in a normal way during childhood, to be able physically and mentally to acquire a sound education, to acquire good habits of living and avoid bad ones, to avoid psychological abnormalities so that the child adjusts himself to his social environment and pass through the difficult periods of puberty and adolescence, to prevent ill health through the making of good health, to prevent by scientific measures so far as we are able infectious diseases of childhood—these are the aims of preventive Pediatrics—it is in its practice the physician should be guide and mentor." What the author really insists upon is that in order to practice Pediatrics intelligently you must have not only a knowledge of disease in childhood, but a knowledge of the child and its development.

The remainder of the book takes up the methods by which the above may be successfully carried out. As these methods are familiar to most of us, no comment is made on this subject. It is felt this book is worthwhile reading and offers many suggestion for bettering Pediatrics.

JULIAN GRAUBARTH, M. D.

Cannula Implants and Review of Implantation Technics in Esthetic Surgery: By Charles Conrad Miller, M. D. Chicago: The Oak Press. 1926.

Dr. Miller describes in this small volume a method of implantation of rubber and gutta percha in the tissues with the aid of cannulae. He claims that by this technic open incisions in cosmetic surgery are avoided and that a minimum of trauma and bleeding results. Various methods of implantation and the use of a great variety of materials in esthetic surgery are reviewed. The author does not claim to have solved all of the different problems connected with this class of surgery but his effort is an addition to the subject matter.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

Oxford University press, New York: 1. "Studies in Intracranial Physiology and Surgery," by Harvey Cushing, M. D. 2. "Surgery of Gastro-Duodenal Ulceration," by Charles A. Pannett, B. Sc. M. D. 3. "Histology of the More Important Human Endocrine Organs," by Eugenia R. A. Cooper. 4. "Treatment of the Acute Abdomen," by Zachary Cope, B. A., M. D., M. S., Lond., F. R. C. S., Eng. 5. "Chemical and Physiological Properties of the Internal Secretions," by E. C. Dodds, Ph. D., B. Sc., M. D., B. Sc., and F. Dickens, M. A., Ph. D. 6. "Neuritis and Neuralgia," by Wilfred Harris, M. D., Cantab., F. R. C. P., Lond. 7. "Obesity," by Leonard Williams, M. D. 8. "Pathology and Treatment of Diabetes," by George Graham, M. A., M. D., F. R. C. P.

W. B. Saunders Company, Philadelphia and London: "A Primer for Diabetic Patients," by Russell M. Wilder, M. D.

Paul B. Hoeber, New York: "Hewat's Examination of the Urine," revised and enlarged, by G. L. Malcolm-Smith, M. B., Ch. B., F. R. C. P. "A Terminology of Disease," by Adrian V. S. Lambert, M. D.

D. Appleton & Company, New York, London: "Symptom Diagnosis," by Wilfred M. Barton, A. M., M. D., F. A. C. P.

C. V. Mosby Company, St. Louis: "A Manual in Preliminary Dietetics," by Maude A. Perry, B. Sc. "Hospital Housekeeping and Sanitation," by Nora P. Hurst, R. N.

REPRINTS.

"Arachnidism," by Emil Bogen, M. D., Los Angeles.

"Annual Report of the Library Committee of the College of Physicians of Philadelphia," for the year 1926.

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THE PASSING OF MALARIA.*

C. C. BASS, M. D.,

NEW ORLEANS.

From the Department of Medicine, Tulane University School of Medicine.

Malaria is one of the most widely distributed diseases of man. The malaria parasite has been a parasite of man so long that it is now, and no doubt has been since prehistoric times, an obligate parasite of man, and cannot be inoculated into any other animal.

Malaria is found widely distributed throughout all of the warm and low-lying parts of most of the countries within a zone surrounding the earth from about 60° North Latitude to 45° South Latitude. In a great many of the regions in which it is endemic, its prevalence is either stationary or may be on the increase. There is no considerable reduction in any large region or country except where civilization has advanced to a considerable extent. On the other hand, there are several countries, vast areas of which were formerly intensely malarious, from which the disease has practically or entirely disappeared at the present time.

In 1697, Morton, of London, wrote an accurate description of the malarial fevers which were then endemic in London, as well as all over England and Wales. In 1726, Sydenham gave a most complete description of intermittent fevers which were endemic over England and to some extent

in Scotland. The medical literature of England indicates continued prevalence of malaria up to 75 or 100 years ago. Since that time there has been a rapid decline and finally practical disappearance of the disease 25 to 50 years ago. It is noteworthy that after the discovery of the manner in which malaria is transmitted by mosquitoes and the identification of the particular species that are capable of transmitting it, these mosquitoes have been found to be still prevalent, sometimes in large numbers, in parts of England, although malaria no longer exists. It is true that it was re-introduced during and following the war by the return of soldiers chiefly from the Balkans and Palestine. Notwithstanding the fact that considerable numbers of infected soldiers were distributed over England, little transmission took place. During 1919, 103 indigenous cases were notified in England; during 1920, 36 and during 1921, 12.

Mannaberg says, "At the beginning of the nineteenth century Holland showed an endemnicity that stood qualitatively and quantitatively scarcely behind that of the notoriously malarious Agra Romana." Today the disease is limited to a very small focus in which very few cases occur.

A hundred years ago, in southern France, the regions of Rochefort, the mouth of the Gironde, etc., were intensely malarious. Today the disease is practically unknown. In the regions of the Harz Mountains and Wurtemberg in Germany, malaria was once one of the most prevalent diseases. These regions are now practically free from the

*Read before the Orleans Parish Medical Society, Nov. 22, 1926.

disease. Intensely malarious foci, where fatal cases frequently occurred in Austria-Hungary, have almost no malaria now and that of the mildest type. Deaths from malaria rarely occur.

Fifty to 100 years ago, when the Ohio Valley and the great West were being settled, malaria was very prevalent in the low-lying valleys in Minnesota and Michigan, especially around the Great Lakes, Wisconsin, Illinois and Indiana. It is very rarely met with now in these regions. Farther south in Kentucky, Missouri, Tennessee and Oklahoma there are still some foci in which the disease prevails in a mild form to some extent. From 1800 to about 1850 the region around New York and Philadelphia, including the cities themselves, had a heavy malaria endemicity. There were foci in which the disease was quite prevalent in Massachusetts and Connecticut, but the disease is no longer endemic in these regions. It is interesting in this connection, however, that when the infection was introduced in Connecticut recently by returning soldiers, it spread quite rapidly until checked by the control work of health agencies. This shows that the conditions for transmission still remained although the disease had long since disappeared.

Up to 20 years ago malaria was very prevalent in the region around Baltimore. The Johns Hopkins Hospital always had a good many cases in it during the warm season of the year. The writer recalls, very vividly, his first experience 22 years ago in microscopic study of malaria parasites in the blood in the out-patient department of the Johns Hopkins Hospital, where cases were to be found almost any time. Many of these cases came from in and around Baltimore. Very few cases are seen there now.

All of the more southern states of the United States were formerly intensely malarious. About the time of the Civil War, malaria was widespread all over the

South and it was perhaps the largest single cause of death, there being a great deal of the various malignant types of the disease. Hemoglobinuria and the comatose forms were of frequent occurrence. In vast areas all the inhabitants were exposed and most of them expected to have their spells of chills and fever during the warm season of the year in the natural course of events. There was, however, the greatest variation in the prevalence and severity of the disease in different regions. The states of Arkansas, Alabama, Georgia, Mississippi, Louisiana and South Carolina suffered most.

There has been gradual but certain decline in the prevalence of malaria in the southern states for more than 50 years. Physicians who practised 40 or 50 years ago and people who are old enough to remember that far back recall the very wide prevalence of the disease at that time and the extent to which it incapacitated a large portion of the people during certain seasons of the year. A large part of the deaths that occurred in some of these regions was due to malaria. Hemoglobinuria and so-called "congestive chills" were among the most common causes of death. The Mississippi Delta in Mississippi and Arkansas was notorious for the malignancy and wide prevalence of malaria. Everybody who lived there expected to have attacks and people who were considering emigration or travel to these regions hesitated, particularly on account of the well known prevalence and destructive effect of this disease. The state of Mississippi was one of the most malarious states and there is still considerable to be found in certain parts of the state. However, in other parts, where only a few years ago chills and fever were of the commonest occurrence, malaria is now almost entirely absent. Dr. Underwood, the State Health Officer of Mississippi, stated last week, in discussing a paper at the meeting of the Southern Medical Association, that the prevalence of malaria in Mississippi had

declined 52 per cent within the past 10 years. This probably represents about the rate of decline that has taken place in the other southern states. If this rate is maintained for another decade or two, malaria will become a negligible factor in the health of the people of these states.

Thirty or forty years ago, malaria was rife in New Orleans and in the surrounding area. Large numbers of cases were seen in the private practice of the physicians of the city and large numbers were also treated in the New Orleans Charity Hospital. During the summertime, it was perhaps the most frequent disease known in the wards of the hospital. I can recall that over 20 years ago there were always to be found several cases of malaria in each of the wards with which I was connected. I recall seeing as many as 16 quinine abscesses in the Charity Hospital at one time, less than 20 years ago. Even 10 years ago it was possible to find many cases of malaria in the hospital, especially during the summer and fall. This is one of the diseases of which we had the greatest abundance to show to our medical students and to visitors or others who were interested. At present the cases of malaria treated in the Charity Hospital are so few that the greatest difficulty is experienced in finding enough material with which to teach medical students and it is getting more scarce every year. Not only are there no cases originating in New Orleans because the disease is no longer endemic here, but very few cases are brought in from the surrounding country; indicating that the prevalence of malaria has declined in the country as well as in the city. A large proportion of the cases that are seen now are people who became infected in other countries, chiefly South and Central America, in most of which there has not yet been any considerable reduction in the prevalence of the disease. Most of the cases seen in New Orleans now are found in the United States Marine Hospital, where many of the patients are

sailors and others who are exposed to infection in different parts of the world. The practising physicians of the city are seeing almost no cases in their private practice. Even those who limit their practice to consultation and see a great many patients from the surrounding country are finding it only very rarely. I think there is a general consensus of opinion to which all practitioners will agree that malaria is rapidly passing as an important disease of this country. It may be interesting to speculate and call attention to some of the factors that have contributed and are contributing to its elimination.

In the first place, the advancement of civilization is certainly an important factor. Whenever the forests are cleared and the land is drained for agricultural or industrial purposes, the tendency is for malaria to give way. It is true that the advance workers who develop such lands are usually badly effected, but as soon as development has progressed sufficiently malaria always gives way. This can be understood very well if one recalls the fact that the effective flight range over which *Anopheles* mosquitoes can transmit malaria is not more than about one mile. People who live more than a mile from mosquito breeding grounds are not likely to contract malaria. As the land is put into cultivation, the breeding ground is pushed back farther and out of range for more and more people. This is probably one of the important explanations for the decline in the prevalence of malaria in those countries or regions in which it declined long before the mode of transmission was known or even the cause of the disease itself, the malaria parasite.

Another factor that no doubt has contributed largely to the acceleration of the reduction in the prevalence of malaria in this country during the past 25 years has been the widespread knowledge of the fact that it is transmitted by mosquitoes and that protection against mosquitoes by

screens, mosquito nets, etc., also protects against the disease. Thirty years ago wire screens for homes were practically unknown. Now most of the homes in cities and many rural homes are screened. Bed nets or mosquito bars were formerly depended upon and these were probably less effective than screens. It is true that most of the screening has been done against the mosquito and the fly as a nuisance, more than against them as transmitters of disease.

Still another factor and one to which I wish especially to call attention is the more intelligent and more extensive use of quinine. Cinchona was introduced into Europe about 1640, but it was not extensively used until about the beginning of the 18th century. During the 18th century there was so much confusion about the diagnosis of malaria and cinchona bark was used in so many different and unsatisfactory ways that its effect was not as great as it was later, following the discovery of quinine in 1820 by Pelletier and Coventou. With quinine, the most important alkaloid of cinchona, in pure form, it was then possible to employ exact doses with far better results. The decline of the prevalence of malaria in all countries from which it has declined during modern times coincides almost exactly with the use of quinine in those countries. Malaria has not declined or decreased to any great extent in any country where quinine is not used extensively or properly. There are a great many countries, the Central American countries for example, in which the physicians administer quinine for malaria either intramuscularly or intravenously, but seldom by mouth. They also stop treatment as soon as their patients are relieved of clinical symptoms. In no country in which this is the practice has there been any appreciable decline in the prevalence of malaria except perhaps in small areas, as in Panama, where extensive anti-mosquito measures have been employed.

The use of quinine in the United States has no doubt been a most important factor in reducing the disease. A prosperous country and an enlightened people naturally use such remedies to best advantage. In all probability one of the important reasons that malaria has not disappeared from the South more rapidly, as it did further north, was because of the large negro population. One can readily understand that where there are a great many negroes who have malaria, they serve as malaria carriers and are sources of infection to their white neighbors. The inferior race would be much less likely to get quinine when they need it or to get sufficient to cure them of their infection so that they would not be carriers. There is a common belief among physicians practising in malarious countries where there are many negroes, that they will not continue to take the quinine after they have been relieved of their clinical symptoms. No doubt that is the case unless they are properly informed of the necessity for taking it after clinical symptoms are relieved. My own impression has been, however, that there is no difficulty to get them to take it if they are given the proper advice. They cooperate better than the lower class of white people.

The most rapid decline in the prevalence of malaria in the United States, by far, has taken place in the last ten years. There is not 50 per cent as much malaria in the United States today as there was 10 years ago. Intensive control operations of one kind or another have been undertaken in many places in the South during this time. In some of these places sanitation has been so perfect as completely to control Anopheline breeding and eliminate malaria entirely. The total area reached, however, by these intensive operations is insignificant when compared with the total area in which the disease prevails. If one granted even 100 per cent of control in all of these control areas it still would account for only

a small fraction of the reduction which has taken place all over the country.

About 10 years ago extensive educational propaganda was undertaken with the object of appealing to the practising physician particularly, throughout the South, more thoroughly to treat their malaria patients with special reference to cure of the infection after the clinical symptoms were relieved. A number of health agencies and workers in the cause formulated and promoted what is known as the Standard Treatment for Malaria, which is 10 grains of quinine sulphate by mouth three times daily for a period of three or four days to relieve the clinical symptoms, followed by 10 grains at night before retiring for a period of 8 weeks to cure the infection. This cures the infection in nearly all cases. Every malaria sufferer cured of his infection is one less source of infection to others. The standard treatment or other effective methods have been employed very extensively by the practicing physicians of the South. A large part of the patients who are treated by physicians now not only get treatment which relieves them of their active symptoms, but they get treatment which in most instances cures their infection. Naturally, this cutting down of the sources of infection year by year must have a marked effect, and it has had. There has been no equal period during the history of this country in which malaria has declined anything like as rapidly as during the past 10 years. I feel very confident that the use of quinine in an effective way has been an important contributing factor.

In conclusion, there can be no doubt but that malaria is rapidly passing as an important disease of this country. At the present rate, within another decade or two it will be a negligible disease except perhaps in certain very limited areas where special circumstances may result in its remaining for a longer time.

DISCUSSION.

Dr. F. M. Johns (New Orleans) The Standard Treatment for Malaria, proposed and advocated

by the National Malaria Committee, headed by Dr. Bass, some years ago, may be considered as probably the greatest single factor contributing to the downfall of malaria in this country.

It is not my intention to discuss the numerous reasons for the "Passing of Malaria," for the statement of one who has contributed so largely as Dr. Bass has to this result could hardly be enlarged upon. I would like, however, to illustrate from my own personal observations the comparative drop in malaria incidence in our community.

Fourteen or fifteen years ago the finding of new cases of malaria, as shown by blood examination, was a matter of daily record in our student laboratories obtaining material from the state Charity Hospital at New Orleans. A dozen or more active cases were on the wards at all times. In private practice hardly a week passed without a positive diagnosis, and these were especially abundant in the fall among persons returning from summer vacations, many of the same patients again relapsing in the spring of the following year.

In the past few years our medical students have had great difficulty in finding enough cases of malaria to fulfill the requirements of the laboratory courses. In 1925, were it not that we had the active assistance of the House Medical Officer, Dr. P. H. Jones, our students would hardly have had enough malaria smears to go around the classes.

In private laboratory diagnostic work, for 1925, my records show the following interesting figures:

Patients examined for malaria by microscope	259
Patients showing malaria parasites.....	1
Patients subsequently relapsing (no parasites found at time of examination)	2

Of these patients, 52 came from cities the size of Shreveport, New Orleans, Mobile, Jackson or Biloxi, while 207 were from communities in which active transmission of malaria could be expected.

The one case of malaria found was in a patient just returned from a long residence in Guatemala, and whose first examination had failed to reveal parasites. The other relapse case waited until he was sent to Colorado for a lung lesion, and whose permanent residence was in Bay St. Louis, Mississippi.

It might strike some one that my cases were all either "well" people or that malaria was overlooked. In answer to this, the records show 69 patients were actually ill with symptoms strongly suggestive of acute malaria. A long experience

in searching for and the finding of many cases of real malaria has convinced me that malaria can be demonstrated in nearly every case presenting fever, and I am satisfied that the requirements of *stain* and *time* spent on smears were fairly fulfilled. Personally, I now class malaria in this community with such rare diseases as trichinosis, which had a slightly higher incidence upon my record.

Dr. Chaille Jamison (New Orleans): I think a great many of you will remember, as well as I do, that sixteen years ago, as intern at Charity, we passed the evenings when we had to stay in the hospital examining patients for malaria, and it was a common thing, as Dr. Johns has stated, to pick up two or three cases in each ward. At that time the negro wards were not without cases from along in March to well into November. Since my return from the war I have had perhaps two or three cases of malaria to demonstrate to the students in these same negro wards. This condition, to one who deals with medical cases, is even more strongly striking than to the one who does the experimental work. In private practice I have seen on an average of two cases a year. Neither of the cases that I recall having seen in the last six months originated in New Orleans; the one a country case, the other a gentleman who lives here, but spends a great deal of his time on the Mississippi River, and I have no doubt that this malaria was picked up in his excursions up and down the river. In the negro wards this summer we had two cases of comatose malaria; the organisms were demonstrated in the blood. Every case that comes into my wards has the blood examined, not once, but several times. The blood is examined in every instance, no matter what the disease. This is possible because the senior class takes the blood routinely as the patient comes in. We have had no case reported this year or last year from that source. I do not think we are missing very many cases by not "picking them up."

In the three years that I was with the City Board of Health there were about twelve cases that showed malaria plasmodia. It is my impression that there have been a few more cases of malaria in the last several months than in the past five years—this is but an impression, however, as I have no figures for verification.

Through Dr. Bass, malaria has been obliterated in our midst; we owe it to his propaganda, his work, and the interest he has aroused.

Dr. J. G. Dempsey (New Orleans): The reduction in number of cases of malaria, no doubt is due and credit should be given to the constant educational propaganda carried on for years

through the journals and press. Of recent years it was my great pleasure to read many articles written by Dr. Bass.

In Louisiana and Mississippi 75% of the people upon a slight rise in temperature resort to self-medication—"the quinine bottle," which can be found in nearly every household.

I would like to ask if it has been established definitely when quinine should be taken, and if the laboratory findings are always negative when the blood is taken from a malaria patient within twenty-four hours after the administration of quinine? In diagnosing malaria from the laboratory standpoint we were taught some years ago that the plasmodia could not be found in any specimen taken within twenty-four hours after giving quinine.

Dr. J. A. Danna (New Orleans): In the old days it was only occasionally that the medical man called in the surgeon, and then only as a matter of unavoidable necessity. Now the pendulum has swung the other way, and especially since the war "passing the buck" has become a habit. Today if a patient presents a symptom of some kind indicating that surgical intervention might be necessary, the medical man immediately washes his hands of the case.

I am going to cite a case and ask for help. A very well known medical man (none stands higher) sent a man to Hotel Dieu with a small mass in the right iliac fossa which he said was tender, and he could not account for temperature which the patient had been running for two weeks. I examined the man and found that he had a lump, but not of an inflammatory nature, and not, in my opinion, responsible for his temperature. I did not do any surgery, but watched him and was often in consultation with the other doctor. I thought from his history it might be malaria and repeatedly had his blood examined for plasmodia, with negative results. The pathologist, Dr. Couret, said he did not expect to find plasmodia because he had had a dose of quinine a few days before. I finally gave him quinine, but he died 36 hours later. Autopsy showed all evidence of malaria, including plasmodia in the spleen pulp and cardiac blood.

Is there not some way of the laboratory man's helping us make a diagnosis in a case of this kind? The patient, unfortunately, had a couple of doses of quinine when he first took sick and because of this the laboratory man could not find any plasmodia. Is there not some way that we can find out and give the patient the right kind of treatment?

The lump happened to be another very serious condition from which he finally would have died: lymphosarcoma of the internal iliac gland.

Dr. C. C. Bass (closing): I think that an experience like that related by Dr. Johns is very significant. For a man who is as capable of discovering malaria parasites in blood as Dr. Johns is, to find only one case in several hundred patients from many different parts of the country, shows that there could be no other explanation than that there has been great reduction in the prevalence of malaria. The experience related by Dr. Jamison of seeing so few cases of malaria in his very large hospital experience coincides with that of all the other physicians here and serves to impress us with the very great decline in the prevalence of malaria during the last ten or fifteen years.

In answer to the question raised as to the effect or influence of taking quinine on the accuracy or dependability of microscopic examination, I would explain that quinine frequently causes rapid disappearance of malaria parasites from the circulating blood. As a result negative findings may be reported in patients who have malaria. It should be understood, however, that the symptoms of fever or chills and fever disappear more quickly than do the parasites and that patients who have no parasites in their blood have no clinical symptoms of malaria. The parasites disappear more quickly in one individual than another as the result of administration of quinine, but this should not prevent the examination of the blood in all cases in which malaria is suspected. If parasites are found, the diagnosis is made definite and if they are not, there is still some uncertainty. In practice one should always collect a specimen of blood when he first sees the patient, for examination either immediately or subsequently. This should be done regardless of whether the patient has taken quinine and without any relation to the occurrence of paroxysms.

In conclusion, I want again to emphasize the fact that the rapid decline in the prevalence of malaria in this country is largely due not only to the use of quinine but to the *proper use* of quinine. According to the information I have, there is probably no country in the world where quinine is used to as good advantage and where there is as little misuse of it in the treatment of malaria as in this country. Unnecessary hypodermic or intravenous administration of the drug is limited to the work of a comparatively small number of enthusiasts and the unreasonably excessive doses are also not used by a great many physicians. The standard treatment, which is effective in most cases, is extensively used

throughout the whole country, and as I have said, has contributed largely to the very rapid decline in the prevalence of the disease.

THE OPERATION OF THE SHEPPARD-TOWNER ACT IN LOUISIANA.*

OSCAR DOWLING, M. D.,

NEW ORLEANS.

In the report of the Children's Bureau for the year ending June 30, 1924, it is stated, "On the face of the figures, the maternal mortality from all causes has been increasing in the United States, and the rate, in this country, is higher than in most foreign countries for which statistics are available. The (general) infant mortality rate dropped 10 points in 1921, but, in spite of this decline, eight other countries still have lower infant death rates than the United States.

Few people, I am sure, other than physicians and statisticians, realize that an enormous number of women are lost every year through preventable complications of childbirth. These are called obstetrical deaths and result from a variety of conditions and factors.

This loss of life among the mothers, and potential mothers, during their productive years—*i. e.*, between 20-40—has been recently a subject of concern in every civilized country. In these countries where the disturbances are short, and clinical facilities are good, the mortality is correspondingly lower, than where unfavorable conditions prevail. In our own country, with vast spaces, scarcely traversed by a railroad, the death rate is correspondingly high; for example, in the northwestern section of the United States, and in the mountainous districts of the Southern States.

*Read before Louisiana State Medical Meeting, Monroe, La., April 15-17, 1926.

Puerperal septicemia, as a disease, is above, and beyond all others, to be regarded as a cause of death, and, if the facts were discoverable in each case, there is no doubt where the blame would rest.

Diseases, other than puerperal infection, swell the list of maternal deaths. Among the most prominent are albuminuria and eclampsia. The latter disease ranks next to puerperal fever in importance, in the ratio of about one to one and a half. Hemorrhage, accidents to pregnant women, and malpositions play important parts in the mortality statistics as well.

Not to tire you with figures, the situation shows that over 18,000 women are known to die annually of diseases, either directly, or indirectly, connected with childbirth, and that this is but a portion of those actually sacrificed. I should think that this figure might be increased by one-third, say, to 24,000 annually. This is a great price to pay for ignorance and indifference, and to diminish this mortality is a gigantic task.

It should not be forgotten, that, while the parturient woman is fulfilling her destiny, and paying the supreme price, the infantile deaths are keeping pace. The greatest mortality is during the first year—a high percentage during the first month; and these deaths are due to disease and accidents of birth, from which both mother and child suffer.

There are born alive each year in the United States approximately 2,620,000 babies. Of this number, about 199,000 die, before they are a year old. Early infant mortality accounts for approximately 100,000 of these deaths. To this number must be added an almost equal number of stillbirths (which our vital statistics overlook). "Early infant deaths and stillbirths exceed in number deaths from tuberculosis, and from all of the infectious diseases combined, except influenza and pneumonia." (Dublin, 1922.)

The enormous unnecessary loss of mothers and babies led to the organization of groups of obstetricians, gynecologists, pediatricians and other men and women, convinced that the prevention and control of the illness and death of mother and child were possible. The conviction grew, supported by the experience particularly of England and Australia, and it was this movement which culminated in the passage of the Maternity and Infancy Act, better known as the Sheppard-Towner Act.

States, in every section, hastened to accept. By June 30, 1925, forty-three states, and Hawaii, were co-operating with the Children's Bureau, in applying the provisions of the Act. Louisiana accepted July 9, 1924, and the work began September 1, 1924, almost two years after programs had become effective in many other states.

Our need in Louisiana for instruction of mothers and for better care of infants, and of prospective mothers, is clearly shown by our statistics, which are correct, as to deaths, and not far from correct as to births.

In 1923 we recorded 22,426 deaths; the death rate was 12.1 per 1,000 population. The births numbered 42,120; the birth rate was 22.7 per 1,000 population. Four hundred and five deaths were from puerperal causes, a death rate from this cause of 9.6 per 1,000 live births. Deaths under one year numbered 3,467, giving an infant mortality rate of 82.3 per 1,000 live births. In other words, 9.6 women died for every one thousand live births, and, of every 1,000 babies born alive, 82.3 died in the first year of life.

In 1924, the death rate was 13.3 per 1,000 population; the birth rate 23.1; the maternal death rate was 10.2 (per 1,000 live births); the infant mortality rate 93.6 (per 1,000 live births).

In 1925 the death rate was 13.2 (per 1,000 population); the birth rate 22.03.

The maternal death rate 11 (per 1,000 live births); the infant mortality rate 91.1 (per 1,000 live births).

You will note we had fewer births recorded in 1925, than in 1924, and a lower infant mortality rate.

The estimated maternal mortality of the United States, for 1923, was 8; sepsis accounted for 22.8 of this figure (Dr. Ralph Lobenstine). In Louisiana our rate was 9.6; we can not say how many were due to sepsis.

However, as a side light on the possibilities for sepsis, and other causes, of maternal deaths, in 1925, 46% of women in childbirth were attended by white physicians; 9.3% by colored doctors, while 44% were attended by midwives (62% of the latter, by colored midwives). The large number of women who, because of circumstances or otherwise, are attended by colored women who practice midwifery, is evident. Even with the best of training, these intermediaries in the most important and dangerous emergency of a woman's life, have not the knowledge, or, above all, the "aseptic instinct" of a trained physician, or, even of a third year medical student. They do, probably, the best they know how, and oftentimes, assisted by nature, there are no bad effects.

In those states co-operating the Children's Bureau suggests the fundamentals of a comprehensive program, and advises that these activities be undertaken, if desirable, according to conditions in the state. These lines of work mentioned are needed, more or less, in every state. They are:

1. Continued education, to develop public appreciation of the value of prenatal, confinement and infant care.

2. Stimulation of complete and early registration of births.

3. Development and extension of facilities for reaching areas where no maternity and infancy work is now done.

4. Establishment of permanent health conferences for prenatal, postnatal, and preschool consultations.

5. Establishment and maintenance of community public health nursing service and of follow-up work after health consultations.

The holding of classes and demonstrations for midwives; dental examinations of the school children of the lower grades, and organization of Mothers' and Little Mothers' classes, come within the scope of the program.

The work has been more than acceptable. Many communities are on the waiting list. In the fifteen months of operation (Sept. 1, 1924—Dec. 31, 1925) fifty-one visits were made to parishes in the interest of the reporting of more complete and accurate birth certificates. On these visits 310 local registrars and 361 physicians were interviewed; 250 (additional) birth certificates were sent to the office and over 1,000 mothers were instructed as to the need for birth registration. To instruct and locate midwives, twenty-four parishes were visited, 117 demonstrations given and 834 midwives interviewed; 1,241 midwives attended classes and 171 were assisted in getting bags and other equipment.

In 1925, 144 consultations or conferences were held of infants and children of the preschool age—the total number being 11,012—8,300 of whom, showed defects. Mothers conferences and meetings were held—number attending these being 4,310. Forty-eight dental clinics were held in this period, with examination of 6,156 children. In these clinics only emergency treatments are given, that is, very bad teeth are extracted, teeth are cleaned and acute conditions remedied.

The work of the portable laboratory in examination of milk samples, in co-operation with the dairy division, and in the examination of specimens for parasitical dis-

eases, was very satisfactory, and it is hoped that, a nutrition campaign in rural sections may be carried out during the summer by means of the traveling laboratories.

Pre-natal instruction has been given at the request of individual prospective mothers or public health nurses and at the baby conferences, if acceptable to those present. A correspondence course seems to meet the desire of a number of women. In response to this, 1227 letters have been sent, as well as pamphlets on pre-natal and infant care. We have six different pamphlets on subjects relating to pre-natal, infant and child care; 25,175 of these were distributed during the fifteen months.

One of the important features of the work has been distribution of silver nitrate solution for use in the eyes of newly born. This has been a legal requirement since 1912, but it seems not to have been generally used by midwives, either through ignorance or because they were unaware of the supply furnished, without cost, by the State Board.

Owing to the urgent demand of the public for examination of school children, the physician and nurses of the Infancy and Maternity divisions were given permission to do some school work in specific instances. When these programs are carried out, the parish or the community pays the expenses of the physician and nurse. These examinations proved educational, as to the need for examination of the younger grades, and for conferences with mothers, and have been the means of increasing the demand for the work. 23,776 school children were examined, and 21,624 were found defective. The defects were noted on slips and sent to the parents, and the conditions found, helped to convince parents that children should be made physically fit before they enter school. One of the main objectives of the summer program will be the examination of the children who will enter school in the fall.

The prevalence of certain defects is quite startling among the school children. Teeth are mainly involved. 15,919 instances of bad teeth were found among 79,795 other defects. Enlarged tonsils rank second, with 13,378 cases. Then, in order, follow nutrition defects, enlarged glands and adenoids. Other defects are not so large in number as these five, though many are of greater, or equal importance. These figures are the result of fifteen months investigation, and probably represent a fair proportional average.

Among infants and children of the pre-school age, we find that glandular hypertrophy occupies the first place; throat affections come next; teeth third; adenoids fourth; while nutritional defects rank fifth.

The alteration, in relative frequency of these five important defects, for two periods of childhood, is, perhaps, not without significance. For instance, the shifting of bad teeth from the third, to the first place in the school age, indicates, that parents are either unaware of or indifferent to this trouble, or that the teeth themselves, by virtue of hereditary weakness, are not able to meet the demands put upon them.

Tonsillar enlargement does not play such a prominent part among small children and infants, as it does among those who have begun to attend school.

Nutrition is third in point of frequency among school children, and fifth among infants and pre-school children. The work of the school, the early hours, the hasty breakfast and, very likely, the cold lunch, are doubtless mainly contributory.

Enlarged glands, meaning hypertrophied lymph nodes, rank fourth in the school child, and first among children of the pre-school age. The explanation may be that older children have acquired immunity to the organisms which cause the adenitis,

and that the glands have returned to normal.

Last, of these five prominent defects, is adenoid hypertrophy. It occupies the fifth place among school child defects, and fourth among those of the preschool child. This seems to indicate that the difficulty develops and persists, becoming only a little more evident because the symptoms are pronounced and can easily be noted.

With these bona fide records, it is self-evident that this service benefits the two classes of individual factors in our civic life, who stand in greatest need of medical advice and instruction. On the one hand, we have the expectant mother and the mother after she has passed through her ordeal; on the other, the child from the time he enters the world up to and after the ending school life.

You and I are aware of how little has been done in prenatal work. We are also aware of the many difficulties in getting over to the expectant mother the instruction that will aid her and perhaps save her life and the life of her baby. Where this work is organized, it is not only the mothers of the cities and towns who receive instruction but those also of the rural regions. Emphasis is laid upon the fact that the prospective mother should have the counsel and assistance of her own medical adviser—her family physician. Effort is made to impress upon her the need for intelligent, trained obstetrical care. If, from necessity, she must have a midwife, she should know of the qualities of a safe midwife; she should know that if any abnormal situation arises, the midwife cannot give relief and should not attempt it, but a physician should be called at once. Happily, in many instances, the baby is given the food that Nature intended, but, if for any reason it should not be possible for the mother to nurse her own baby, she should know it is absolutely imperative that a physician be asked to prescribe the exact formula for the baby's

feeding. She should know something of the care that must be exercised in cleanliness when artificial food is given and the signs by which she can tell whether her baby is well nourished or not. Some medical advice is necessary even for babies that are breast fed and the mother should be taught signs of malnutrition or lack of proper weight, or any condition which is not normal.

There are about 2,000 midwives in the State of Louisiana and many of these should have specific training in the simplest principles of asepsis; they should know the consequences of foolish practices or methods, which mean a great risk to mother and child. It is within the power of an intelligent force to get the good will of the midwife and to have her appreciate the lessons and demonstrations that are offered. We know this to be true because of the experience in four parishes where intensive work has been accomplished.

Referring to the children, many of whom are beneficiaries of this work, it is cruel to expect a defective child to keep up with his class; it goes without saying, also, that, if he is made to feel his inferiority without realizing that it is because of a physical defect, it will react upon him mentally. In fact, it is known that what is called the "inferiority complex," which prevails among many defective children, is due to the teacher's, parents' or his own lack of knowledge of his own physical condition.

On the economic side, for the State and the community, the defective child is a great expense to the school authorities; if he is a repeater or even slow he is an expense. Our school authorities know this and welcome whatever can be done to make the children physically fit. Our juvenile courts find that a large number of the children who are brought before them belong in the class of the defective. We spend untold amounts on the courts, houses of detention, reform schools and other institutions of like character, to correct what we call

moral and mental defects, many of which have their origin in the unsound physical body.

It is greatly to the credit of the legislatures of the states and their health departments that nearly every state in the Union has acknowledged that the conditions which exist call for systematic, organized, intensive work along the lines suggested by the Children's Bureau in Washington. It is recognized that, ultimately, all health work will be financed and directed by the local and State authorities, and I think it is quite true that wherever health work is successfully done, the community is convinced of its beneficial influence, and, likewise, the community is convinced of the economy of spending money for prevention rather than cure.

In the operation of the Bureau of Child Hygiene, and especially in the division given over to Infancy and Maternity work, the co-operation of the Parish Unit has been most helpful and satisfactory. Five of these Units were assisted by funds from the division. All are interested in every aspect of child health. They send reports monthly to the Bureau of Child Hygiene of the Louisiana State Board of Health of their activities in these phases of health work.

DISCUSSION.

Dr. E. S. Matthews (Bunkie): The startling statement made by Dr. Dowling that the maternal mortality in this country is greater than in any other country from which he has statistics, and that it is twice as large as it is in England and Wales, and secondly, that the infant mortality in this country is 100,000 a year for those who die in the early stages of infancy, is a question that certainly should arouse us to a serious problem.

The first question that comes to my mind is, why is this? They say that we are the most enlightened nation under the sun, that we are the richest nation under the sun, that education with all of its advantages can be had from the Lakes to the Gulf and from coast to coast. I will not attempt to answer this question but would rather anticipate its answer in the future under a new administration of affairs.

In 1921 the Sheppard-Towner bill was passed by Congress, which was an act granting a certain amount of money to each state that would put up an equal amount of money for the purpose of educating prospective mothers in the proper manner of caring for infants in their early age. I am glad to tell you that this act was promulgated by Senator Gilbert of this state and passed the Legislature in 1924. Since that time it has been operative in this State, according to Dr. Dowling. I am sure that it meets the approval of every one here and we are all anxious to see that it is properly carried out.

Louisiana received in 1925, \$17,000, which was duplicated by the state and the promulgation of the act became operative and the education of the women of this state was attempted. Recently it was my good fortune to have the corps of nurses and doctors from the State Board of Health in my town and parish and already I notice improvement, particularly among the midwives. It is a pleasure for me to announce that the midwives who formerly came to me with ordinary clothes, come with their satchels, white caps and white gowns, and they have been taught so well by the two doctors named by Dr. Dowling, the nurse and doctor, that it is a pleasure to be with them.

We spend so much money on other subjects—the breeding of stock in agriculture, the advancement of science for material welfare and happiness, that it seems this \$34,000 we are spending now is just a drop in the bucket. We should preserve by every known means as physicians, by every personal act, by every act of education, legislation and everything else, the lives of those who are dearest to us, those lovable lives, those beautiful lives, the mothers and the babies.

Dr. H. R. Unsworth (New Orleans): It seems to me that the wrong impression is being given about the midwives. I believe there are a lot of physicians who have been well educated in their particular line who turn out to be incompetent obstetricians, and I don't see how it is possible to expect a midwife to be a competent obstetrician. I believe we can go a long way toward reducing our infant mortality by eliminating if possible the practice of midwifery. Not that they are malicious in what they do but that they are ignorant. Instead of fostering a feeling of uplifting the midwives and increasing the midwives, I believe it would be far better to try to find some means to eliminate the midwife and thereby I feel that infant mortality and mother mortality might be in turn reduced.

It is true that midwives in a physical way have improved. Midwives intellectually and obstetrically cannot improve because they are fundamentally ignorant of obstetrics. I think Louisiana would make a terrific stride forward if there was some law of legislature to prohibit midwives from practicing obstetrics. As far as assisting the doctor I consider that they are a very remarkable assistance, but as far as active delivery is concerned, I think it is a mistake to advocate midwifery in obstetrics in any state when it is possible to have a physician.

Dr. J. S. Branch (Alco): I just want to add a few words to what Dr. Unsworth has said as to the question of getting rid of midwives. I don't believe you could any more do that than you could divert the waters of the Mississippi River. It is an utter impossibility to be rid of midwives. Therefore, the only thing we can do is to educate them, and make them do more efficient work.

Dr. Wallace J. Durel (New Orleans). I am certainly delighted to hear the good report that Dr. Dowling has given us and I feel that Dr. Dowling is to be complimented on this part of his work. When this bill was first proposed to us I was dubious in the matter but evidently Dr. Dowling through his management and supervision has brought the bill out to good effect.

The latter part of Dr. Dowling's statement I want to take up, relative to the help that should be given by the public, by the profession at large, not only to the young child but also in the prevention of other conditions, infectious conditions. The official organization, that is, the Board of Health, no doubt has its specific duties to perform. Besides we have the non-official organizations such as the Child Welfare, which no doubt had started such work even before the Board of Health tried to do it. And those wonderful ladies who have organized the child welfare should be encouraged.

The organization that was founded practically by our good Chairman here certainly should be given the strong support of every citizen in Louisiana, not only financially but morally. I must say that since the organization of the Tuberculosis and Public Health Service I have seen one thing I have been trying to see for years—a greater interest displayed by the medical profession in health work and in tuberculosis.

As Dr. Dowling has stated, in the example where the doctor did not wash his hands and he was checked by a board of health representative, I must say it is a sad reflection on the medical profession if the medical profession has to be educated by the board of health. Let's

close our medical colleges; let's do something else. But, thank God, it is going to be this way: these things that are happening are going to stimulate members of medical colleges to a better education in that line of work to their students, and I want to congratulate Dr. Dowling again on his achievement.

Dr. R. W. Seay (Local Registrar, La. State Board Health, Millikin): I would like to say a little about a thing that I believe will be of great benefit to the State of Louisiana. As Local Registrar for some years I have gone to great exertion in order to take the registrations. I have gone before the police jury while in session, the grand jury while in session, and the district attorney, and begged them to carry out the law in having these people prosecuted who do not send in their registrations. I believe that if the district attorney and the police juries will arrest a few of the people in different parts of the parish who are not fulfilling their duties, when they are so derelict that they neglect to send in registrations, it will be of great benefit to the state and we will get our registrations.

They will not send them in. Sometimes they are almost a year behind and I have to spend days and days in going and hunting each individuation in order to try and get the information. I have been trying to get these for the state and have done a great deal of extra work, doing sometimes as much as three days' work at one time, going into adjoining wards in order to get those that could not be obtained because the people did not care. They were not prosecuted. There has never been a prosecution in the parish yet and I believe there will be immense advantage if some of the people are prosecuted and brought in and made to realize that they can't neglect their duties and still go free.

Dr. Thos. E. Wright (Monroe): Since the operation of this new law in Louisiana, undoubtedly a great deal of good has been accomplished, and yet we are just at the beginning, or the starting point. From Dr. Dowling's paper and with what little information we may have on the side, it occurs to me that we have about three chief elements with which to deal in this particular work.

The first one is the prenatal care. Some women, expectant mothers, are so entirely ignorant of what may be expected of them, of the coming trials and multiplied details they are to meet within the next few months, their own care of themselves, environment, etc., this one item alone,—ignorance on the part of the mother, is responsible for the loss of many babies.

The State Board of Health is particularly anxious to send out to every expectant mother through the mail all of the literature which is the best obtainable for her to read. In this parish, where we have our health unit and where our director is helping and encouraging our public health nurse, at intervals of two or three or four weeks this nurse calls on the different doctors who are available and asks them to give her a list of their expectant mothers and she will take to them in their homes all the literature they need.

That is easy. That woman becomes intelligently informed and correctly informed about what may be expected of her and what she may expect to happen to her. That is one.

Now the matter of the second period, which is the matter of confinement itself. I won't have to touch upon the doctors but we have a problem we must meet in this state and that is the problem of the midwife. One of the doctors struck a keynote when he said we must keep them yet we must educate them as much as possible so that they will handle more skillfully, if we might speak of it in that way, the cases under their care.

We have, as an illustration, in this Parish of Ouachita, about seventy-eight midwives. None of them are licensed. It is impossible for any of these to be licensed because none of them can read or write sufficiently to take a written examination. They have a place in the practice of medicine; they have their niche or corner somewhere in this particular civilization we call Ouachita Parish, a part and parcel of its existence. I am glad that they are here and that they are working, although they are working against the law as it stands because what they do is illegal. We could prosecute but we don't want to do that. There are many cases of confinement which doctors will not have time to attend and some woman would suffer. They fill their place.

Undoubtedly, unquestionably, either at the next meeting of the Legislature or some time in the future, the Louisiana law governing the control of midwives is bound to be modified so that a reasonably competent colored woman who knows the principles of cleanliness and asepsis, who has her own equipment, etc., who knows how to keep clean, uses good judgment and common sense, may deliver a woman skillfully so far as the midwife's work is concerned, even though she may not be able to read or write. They have their place and we must recognize and appreciate it and we must help them by educating them.

To do that properly we must weed out the most undesirable ones, the ones who can't see well enough and the ones who do not follow established lines of procedure. As it stands now we have to accept all of them or weed them all out. This problem undoubtedly will adjust itself.

In the matter of infant care, again where your public health nurse is working (and I hope to see the time when every parish in the state will have one even if she has to be called the school nurse) she can do much. So many sick babies are so due to the ignorance of the mothers who feed them improper food, or too much, or give them bad milk where even the bottles and the rubber nipples are scalded possibly once in a week. No wonder the infant mortality rate is so high. And now to summarize:

Through the instrument of your public health nurse, and as I said she must be utilized sometime or other in every parish, your infant mortality can be decreased markedly through education of your mother about herself previous to confinement. The next serious point of attack is the skillful management and training of your midwife depending upon the medical profession to do its part in educating the midwives along lines of general safety. Last is the postnatal care of your infants.

This subject has a much larger scope than I have outlined. I mention these three as leading points. This work will go into the schools and pick up the defective children and pretty soon you see the eye, ear, nose and throat men taking care of them, eyesight corrected and hook worm disease treated, many other defects corrected and the children put on a more stable basis for learning to be future citizens.

We can't do anything else, certainly, but approve the work that has been done not only in Louisiana but every state where this law is effective.

Dr. R. McG. Carruth (New Roads): I have spoken so often on this subject before medical bodies and before mothers' meetings and baby health campaigns and medical men in various districts, especially in my own parish, our little parish society meetings, that honestly I have almost become weary of the sound of my own voice. And did I not believe it to be possibly a subject the most important that could be discussed in any medical body or in any community club meeting of the mothers of the state, I would not rise now to say one word, because the hour is late and I feel that I ought not to impose upon your time.

I have not done a large obstetrical work but in the forty-five years of my practice in the country I must have seen a great many of these cases. Very early in my professional life my attention was called to the fact of the gross incompetence of the average midwife, not only on the large plantations that did the work mostly for negroes, but of the midwives that were called into our best white families because there were no others to be had.

Time and again have I seen old women, supposed to be capable on account of their very decrepit condition, showing the long experience they had had, with ankylosed finger joints, long finger nails crooked at the end from diseased bone felons, and other things upon those poor old crooked fingers, seventy-five years of age, attempting to attend to a little baby just come into this world, when there stood by the mother, the grandmother or the aunt or the married sister or other lady friends afraid to take hold of the child.

How often have I taken that old grandmother or the aunt aside and given her a heart to heart talk! "You think this old woman knows more than you do simply because she has been at this business for so long a time. If you don't know anything about it, in God's name it is time you should learn something about it."

I have known a case where child after child of some old midwife died within a few days after birth until I had to go to her and tell her, "Don't you confine another case for three months," and I made her come to my office and gave her instruction. I am perfectly certain the deaths were due to the contagion she carried around. I examined her fingers and explained to her there were enough poison germs to destroy the world under the finger nails. I tried to explain to her the importance not only of washing with ordinary soap and boiled water, but of using disinfectant soap and a rough scrubbing brush and even then that she ought to have a pair of gloves, though of course I knew it was impossible to get her to handle them in the proper way.

We should not stop with educating the old midwives. Gentlemen, the time has not come and may not come for years when we can do without the old plantation midwife. What are we going to do? Not long ago an old woman was arrested and put under bond in my parish for something she had done or something she was supposed to have done. I went to the doctor and I had a heart to heart talk with him. I went to the old woman. I went to the judge and I had the charge dismissed with the doctor's consent. I told the planter on whose plantation

this woman lived and who had very kindly gone her bond that this old woman was an average midwife. She had done good work that I knew from my own observation because she had been with me in my cases. I told him I had talked to her about the way she should handle these cases, more what she should not do than what she should do. I told that overseer, that planter, that it wasn't his duty to stop that old woman, but that it was his duty, had that old woman not been there, had there been no woman within reach, to go himself to help that poor woman. "It is your duty, man as you are, to go into that cabin on your place and help that poor creature in the throes of agony at such a critical time in her existence, in the name of God and the children of the land."

I have brought this matter before the people at their mass meetings, at their community gatherings, in baby campaigns, and in various other meetings of mothers' clubs. We should not only educate the old women but we should educate the mothers and the grandmothers and the aunts and the married sisters along this line. Until we have sufficient funds to provide a physician or a graduate midwife for every community throughout the land, it is up to us gentlemen and it is our fault if we do not at least preach the gospel of cleanliness. We are to blame. I am to blame for not having done even more than I feel I have done. We are all to blame for this condition and the sooner we recognize it and try to eradicate it the better it will be. One further word and I am through. The time for the preparation for confinement begins in the early weeks of gestation.

Dr. Dowling (in closing): It is very interesting that during 1925 forty per cent of babies reported, and we estimate ninety-eight per cent of them were recorded, were delivered by white physicians, nine per cent by colored physicians and the rest by midwives—sixty-two per cent of this number, however, were delivered by colored midwives.

The law provides that the midwives may practice in plantation emergencies, and if you want to stir up a community appear before the grand jury sometime and ask for an indictment of some old colored woman. You will probably find that one, two or three members of that grand jury know the woman—in fact she may have attended their wives at some period in their lives—and you will be far from getting that indictment.

As long as we have them with us and as long as they are going to take care of these cases, the Board of Health has felt it is its duty to see they are as cleanly as possible and that they helped in the proper way. I still indulge the

hope that the time is not far distant when we will have facilities for emergencies in hospitals, just as in British countries, where they have a minimum of ten beds with a staff to take care of these emergencies. They have ambulances to bring the cases in; they will not go out to take care of them. Also, at these places incipient tuberculosis can be diagnosed.

We want to make childbirth safe both for the mother and for the child in Louisiana.

FOREIGN BODIES OF THE INTESTINE.*

D. I. HIRSCH, M. D.,
MONROE, LA.

For the past few years, I have devoted considerable time to the study and classification of intestinal obstruction caused by foreign bodies. It was while making these investigations we were able by a process of elimination to classify and diagnose these cases. The symptoms found were not consistent and would not fit into any of the classifications we had made of intestinal obstruction; although our experiences are limited, we were able in the last few cases to make a diagnosis. It is indeed amazing, while perusing the literature, to see how badly the subject of intestinal obstruction is handled and with only a small reference to the cases with foreign bodies in the small intestine. Time does not permit, nor is it my intention to go into the subject of intestinal obstruction; were it possible for us to do so, it would make this paper more interesting. Foreign bodies in the small intestine constitutes a clinical entity as easily and definitely diagnosed as a gall stone or ureteral calculus. There is no doubt in my mind that the extreme abdominal discomfort seen so frequent in young boys after eating green fruit, is due to the fact that these fruit particles are undigested and act as a foreign body in the small intestine.

The etiology in most cases is obvious: some are caused by parasites, gall stones, and tumors or polyps. A polyp may become detached from its pedicle and then becomes a foreign body, the most frequent result of polyps being intussusception which is caused by dragging on the pedicle. Fruit seeds, gall stones, etc., act as a nucleus collecting the fecal particles, which become saponified, thus forming an enterolith or corporolith.

PATHOLOGY.

As long as the foreign body does not cause obstruction or is dormant, you would have very little change in the gut other than a narrowing of the lumen on either side. This condition was found twice by me. Whenever the foreign body causes obstruction, then the pathology of obstruction, acute or chronic, would be expected. Cases of intussusception in adults are caused by tumors or polyps in the majority of instances, although we have never observed this in our experiences. In all of our cases, the seat of trouble seemed to be in the last eighteen inches of the ileum.

SYMPTOMS.

The usual onset in these cases is a severe abdominal pain, generally around the umbilicus. It is very severe, not constant, each pain corresponding to the peristaltic wave; at each peristalsis, there is a recurrence of the pain, causing the patient to cry out, also flex the legs upon the abdomen in order to get relief. The pain is as severe as a pain of gall stone or kidney stone, but of shorter duration. These patients usually vomit early, the abdomen is flat, no rigidity, but there is a flatness on percussion over the foreign body which is very similar to the symptoms described by Dancy and found anywhere in the abdomen over the foreign body. There is also pain on pressure. I have never been able to palpate a foreign body, but in conversation with several of my confreres, I have received reports in which masses of round worms could be felt. You

*Read before the Louisiana State Medical Society, Monroe, April 15-17, 1926.

will not find a complete obstruction in these cases until the foreign body becomes fixed or catches in the narrow parts of the gut, which is near the ileocecal valve. The pain is so severe that it becomes necessary to relieve these patients; a small dose of morphine will suffice, the pain returning as soon as the effects of the morphine has worn off. This is a very important point in the diagnosis, as the pain will return at a different point from which it was at the time the morphine was given, showing that the cause of the trouble has moved. After giving an enema, there may be a bowel movement; if repeated enemas are given, the water soon returns clear, which is very important. There is not much distention, as there is seldom a complete obstruction. The gases pass on and are expelled, leaving the abdomen flat. Early in these cases, there is no rigidity, but tenderness on pressure over the foreign body.

DIAGNOSIS.

The first impression one gets is that he is dealing with an acute surgical abdomen. The disappointment is keen when, upon palpating an abdomen, you find no rigidity, no distention, and none of the objective symptoms of an acute abdomen. The temperature and the pulse are normal, the patient has an uneasy expression, the forehead and face are moist. In a few moments the pain subsides, only to return again with renewed force, causing the patient to cry out, and, to use an ordinary expression, bend double to get relief. The patient may give a history of having vomited or may vomit while under observation. The laboratory is of no aid in the diagnosis of these cases, varying in two cases from a normal to a leucocyte count of twenty-five thousand. X-ray may be a valuable aid in the diagnosis. To summarize, the diagnosis is made from the following symptoms: severe or acute pain, no rigidity, no distention, no temperature, vomiting and obstipation; the similarity of these cases to the cases of gall stone and kidney stone is very marked, the

only difference being in the location of the pain.

Case 1: The patient, F. K., male, age twenty-nine, well developed, plethoric individual; on October 2nd, was called to see this man who presented all symptoms of a renal colic, pain in the right flank radiating into the groin. He was given a hypodermic of morphine which relieved his pain. Subsequent examination, X-ray and laboratory failed to reveal any evidence of kidney stone. About two weeks after this attack, patient consulted me complaining of indigestion and constipation. He was advised to go to the hospital for examination; as he had planned a trip to New York, he asked a postponement and promised to return in November for his examination. Present trouble began November 8th, with severe pain in the epigastrium. He went to the drugstore and was given some pluto water; shortly afterwards was taken with violent pain in the upper abdomen, within an hour began vomiting, still complaining with severe intermittent pains in the epigastrium. Copious draughts of soda water were given and a large amount of clear yellow fluid was vomited. Patient still complaining of severe pain in the epigastrium, hypodermic one-eighth grain of morphine was given on the night of November 8th, which gave some relief. Several enemas were given without results. There was no distention, no rigidity, very slight pain on pressure and flatness of percussion. Thinking I was dealing with a condition similar to the previous attack, he was given a small dose of calomel in order to relieve the vomiting. At this time there was no temperature, no rigidity, and no pain, leucocyte count 6500. On the afternoon of November 9th, some distention, some rigidity and vomiting of a stercoraceous nature. Diagnosis of intestinal obstruction was made and the patient brought to the hospital for operation. Upon opening the abdomen the obstruction was easily located. Two large masses were found about eight inches from the ileocecal valve, causing the obstruction; an incision was made into the gut and the cause removed, closure being made in the usual manner. Patient returned from the operation in good shape, pulse eighty-eight, temperature normal. The next morning showed no signs of distention, patient's condition very satisfactory. The following morning patient developed post-operative pneumonia and died on November 10th.

The following post mortem findings are reported: double pneumonia, which evidently caused patient's death. In the stomach was located a mass about the size of a baseball which corresponded with the ones found at operation. Intestinal Canal: There was no distention, site

of operation was healing by first intention, there being no evidence that death was due to operative interference. On examining masses removed from stomach and intestine, they were found to be composed of seeds from the persimmon, the two small ones were about the size of a golf ball, having the consistency and color of putty; upon breaking them, they were found to be composed of the seeds which were held together by a fiber which was evidently part of fruit, the larger one having the same consistency and appearance as the smaller. This is not as typical as the next two cases I shall report, and it is very doubtful if the diagnosis could have been made in this case before the obstruction took place. You will observe that it was forty-eight hours from the time of his first symptoms, until the diagnosis could be made.

Case 2: Seen in consultation with Dr. J. E. Walsworth. Following record taken from files of Dr. Walsworth.

R. S., white, male, age twenty-two, robust.

Family History. Irrelevant.

Social History: Truck driver for wholesale grocery house for the past two years, and accustomed to usual social life of such occupations.

Previous Medical History: Ordinary diseases of childhood, but no special complications or sickness. Has had abdominal distress at intervals for several months, but of no special significance.

Present Illness: While camping out on hunting trip, patient was caught in rain-storm; on home car was stuck and in trying to get it out of mud, patient strained himself considerably; noticed abdominal pain and broke out in cold sweat. After a rest, felt better and returned home. Pain continued at intervals, rhythmical in character, more severe spasmodically; ate big dinner, fried corn forming a bulk of the meal. Bowels moved several times, cramping pain continued. Began vomiting about 3 p. m., felt better. Dose of salts, oil. About 9 and 11 p. m. began vomiting, pain severe in abdomen, rhythmical in character, cramps, no pain in intervals, no sleep; has developed fresh cold (had grippe ten days ago but had recuperated). 9 a. m. case was seen.

General Physical Condition: White, male youth, well nourished and developed, height about 5 ft. and 8 in. and weighing approximately 170 lbs.

Physical examination: Local: In going over history, we felt that a careful interpretation of clinical findings referring to the abdomen and chest were sufficient to concentrate our attention as suggested by record.

Chest: Cardio-vascular system.

Heart: Apex located within left 5th interspace just within mid-clavicular line and while the action was accelerated to about 120 per minute there were no other findings of significance.

Lungs: Regardless of fact of history of grippe few days ago and fresh cold night before, lungs were negative to inspection, palpation, percussion and auscultation.

Abdomen: Inspection revealed normal contour. Auscultation elicits audible splashing sounds of gas occasionally, and associated with rhythmical pains—very well generalized over the upper abdomen.

Palpation: Reveals slight tenderness over entire abdomen with seeming exaggeration along right rectus—palpation prohibited during period of rhythmical pain—extreme sensitiveness at that time.

Laboratory Reports. Urine shows trace of albumin.

Blood: 14,500 with 85 per cent of neutrophiles.

Temperature: 98°.

Respiration: Normal in interval between pains—accelerated during pain.

Diagnosis by Induction from Clinical Data:

Thorough study of history of case, onset of illness, record of present illness, together with physical findings and their interpretations, led us to conclude that we were dealing with a surgical abdomen—the condition being most probably an enterolith type of intestinal obstruction and we therefore advised immediate surgical intervention.

Pre-operative Diagnosis: Intestinal obstruction—Enterolith.

Surgical Technique: Ordinary right rectus incision of usual type for appendectomy. Exploration revealed large, hard bolus in ileum about 8 inches proximal to ileocecal valve—bolus removed by small anti-mesenteric linear incision—wound closed by classical Connell and Lembert sutures—abdominal wound closed without drainage.

Post Operative Record: Patient returned to room in good condition, reacted nicely, but lungs became edematous within few hours, filling completely, the patient dying during the 36th post-operative hour from edema of the lungs.

Case 3: J. S.

Family History: Irrelevant.

Social History: Married man, clerk in store.

Past History. Patient states that he has had three attacks of appendicitis. Severe constipation, otherwise negative.

I was summoned to see a case of appendicitis; upon arriving at bedside found patient with severe pain in abdomen, near umbilicus; no rigidity, no tenderness at McBurney's point, no temperature and no history of having vomited. Upon inquiring, I learned that his case had been diagnosed appendicitis and immediate operation advised. Patient was admitted to hospital for observation. Leucocyte count 6500 with normal differential count. Pain of paroxysmal type very severe, causing sweating and nausea. At this time a diagnosis of foreign body was made and preparations for X-ray examination were made. As there was no indication for haste, we were very deliberate in our procedure. An enema of warm soap water was given, the patient expelling four hard fecal masses or corporoliths, getting considerable relief. Hot applications were made to the abdomen and another enema given with the same results as above with one stone about the size of a marble, which I took for a gall stone. The patient was entirely relieved and left the hospital before any further examination could be made.

DISCUSSION.

Dr. J. E. Walsworth (Monroe): First, I want to thank Dr. Hirsch for asking me to discuss this paper, because it has been a great deal of pleasure to be associated with Dr. Hirsch in numbers of cases in Monroe.

In looking over the records of the hospitals here, there have been very few cases of this type treated in Monroe in the last few years. Monroe serves in surgical work a population of about 80,000 people, and in looking up the records of different hospitals I have noticed that we do in hospitals of Monroe more surgical work than numbers of towns of larger population. When we consider that we can appreciate the infrequency of this type of intestinal obstruction.

We don't mean the type caused by foreign bodies which we know the patient has taken, possibly a chicken bone or pin, because we have a diagnosis already made and we keep them under observation. Rather we are dealing with the case that comes up without any definite history, without any knowledge of the patient's having eaten anything that could produce it. When we get a condition of that type, the patient usually does not appreciate the seriousness of his condition and one is called in and finds him suffering with those rhythmical pains that are characteristic of the condition, similar to the pains in those late cases of complete obstruction. Sometimes one can see the wave going around where you have

the distention, but one gets this early, without any distention of the abdomen whatever. I would term that an intermittent obstruction. That is, it is obstructing one minute and possibly the next minute the gas and everything is expelled and the patient's bowels move.

The patient cannot appreciate the seriousness of his condition and one has to be very diplomatic with that part of it. When you find an abdomen of this type and with that history, it seems to me that you should stop, look and reason with yourself and with the patient, because your attitude from the beginning with that patient possibly means his life. You are going to have to be very conservative with him and diplomatic to get his co-operation.

We must remember the anatomy of the gastrointestinal tract, the nerve supply, and then we must develop, as Dr. Mayo so well brought out the other day, the sixth sense of imagination and be able to interpret the condition by elimination and the full development of that sense. In looking over these cases and discussing the condition of those patients we must remember that we are usually called late; that is, the first physician is usually called late. The patient has been suffering considerably and has gone through a certain stage of exhaustion. When you get those pains that are brought on by these foreign bodies you can appreciate that there has been considerable exhaustion brought about by the intestine trying to force that through, and you may just as well consider a surgical treatment in a case of obstetrics for cesarean section that has already become exhausted as to consider surgical treatment in these conditions.

For that reason, with the record and experience that we have had, we have been a little bit suspicious about these conditions. There is another thing to consider in the treatment, and that is that we have an emergency, but the emergency has possibly already existed for some several hours and a little bit more time will not necessarily jeopardize the patient much more than has already been done.

Dr. C. P. Gray (Monroe): It is with quite a good deal of respect that I discuss a paper by my friend, Dr. Hirsch. I have quite a good deal of respect for his keen sense of diagnosis and I will take this occasion to compliment him on the diagnosis of a number of cases similar to the ones that he has reported.

I have had no personal experience that I know of, except one case, of foreign bodies in the bowel, producing symptoms of obstruction. That case, coupled with the interest that Dr. Hirsch has aroused in Monroe by the cases he

has come in contact with, leads me to say that as a whole, foreign bodies in the intestine and the obstruction produced thereby produce a set of symptoms different to those we find in almost any other condition.

I remember distinctly this case that I have in mind I diagnosed as an appendicitis. Afterwards looking back over it I could see where I was wrong because we get a discrepancy in the symptoms, vomiting, blood count and temperature. As Dr. Hirsch so well brought out, there is a peculiar flatness of the abdomen, I recall distinctly my case had that flatness. One or two other cases that I have seen since that time presented that same peculiar flatness.

To illustrate what I mean, it is similar to a race horse after running a race. If you stop the horse and observe his breathing you notice a flatness in the flank which is different to that existing when the horse is standing at ease or at rest. You find that a similar flatness occurs in these cases of foreign bodies.

Another thing, in regard to the pain, it is different from that we have in other conditions. As one patient described it, if his abdomen were twice the size of a normal abdomen the pain would cover that entire area. That is, it gives the impression that the abdomen is really larger than it is.

I think that Dr. Hirsch well brought out that the reason for this flatness in some of these cases or in the majority of them is that the obstruction is not complete. I remember well this case I speak of. The foreign body was a chicken bone one and three-fourths inches long. In this case there was free bowel movement because the obstruction was not complete.

As a whole I want to agree with the author of this paper. I think that he has devoted quite a good deal of time and study to a condition which has not been appreciated by the medical profession as a whole as it should be because it is almost a separate entity within itself.

Dr. J. Birney Guthrie (New Orleans): There is one word that I have been listening for in this very interesting discussion of foreign bodies in the intestine. The word is diverticulum. I think that when we have an obstruction in a tubular viscus above and below a certain point that we are sure to find a diverticulum. It is the only thing in the world that can explain what we have seen, the retention of collections of foreign bodies.

Several years ago I published a report on some cases of ascites, one of which went to autopsy, and we found three or four diverticula in contin-

uity, holding the most extraordinary collection of junk that you can imagine, cherry pits, frog bones, etc. We had a great deal of trouble identifying the animal that the bones came from but they were frog bones, and pieces of the ends of chicken bones, a collection amounting in bulk to about that of a three ounce jar. These things had remained in this negro's intestine without any obstruction as in Dr. Gray's case. He had been repeatedly purged. He had an enormous ascites and I was especially interested in him from the standpoint of the ascites. We tapped him on numerous occasions and we didn't ever find these diverticula.

Dr. D'Aunoy held the autopsy and when the abdomen was opened at autopsy the gut was found very much thinned over the point of the retention and we could see the black masses of the retained particles in places through the intestinal wall. The point of interest is that apparently the intestine bore these insults and the foreign bodies remained and there it stayed. The pain was not much different from the pain of ordinary liver case, and indeed there was a very considerable amount of hemoptysis in that particular case.

I feel sure that if we had x-rayed this patient we would have found the shadows of the masses that would have put us on our guard. I think there was sufficient density in the masses to have cast a shadow. I don't believe, in the case of the foreign body Dr. Hirsch showed us today, that the radiograph would have shown this particular mass. The density is so slight that the shadow would probably not have been recorded on the plate.

The subject is an important one. In the absence of intestinal obstruction we are apt to overlook the retention of these masses as in this case I am speaking of. Although we were studying the case rather intensively, and it was one of a series of cases of ascites that we were studying from some other angle, we failed to recognize the foreign bodies until autopsy.

Dr. W. P. D. Tily (New Orleans): I once spent a nickel to buy a box of cracker-jack for a little fellow that had a fractured arm, and in that box we discovered a flat whistle. To my surprise, I was called a few days after to be told that he had swallowed this flat whistle which I suppose was slightly larger than a quarter. I was very much alarmed then, just as almost any of you would be. That was in the country and I was preparing to have the child sent immediately to the city for x-ray. To show how large a foreign body will pass through the small intestinal tract, this little fellow, the next morn-

ing, passed the whistle and I was extremely delighted.

I also have the history of a child, a first cousin of mine, who some years ago, during the early period of x-ray, was sent to Charity Hospital after he had swallowed a fifty cent piece. This boy was not operated on. X-rays were taken and the fifty cent piece was found to be so low toward the rectum, that if given time, it would come out without operation. The boy is now carrying his fifty cent piece on his watch chain.

When you already know that you have a foreign body to deal with and have already taken your x-ray, do you find it advisable to operate immediately? I think my former chief can tell you a little story of foreign bodies in the stomach. We know that we pass foreign bodies through the intestinal tract of all types but these were flat surfaces, the size of a half a dollar. So I think you must give them time and watch your case.

Another thing about persimmon seeds. I do not know why persimmon seeds will give you obstruction but I remember my father mentioned that to me; in the very early days he had an obstruction from persimmon seeds. Since that time, I have noticed many times little children eating persimmons very often had obstruction; you have to watch very carefully for persimmon seed obstruction. There must be a condition of tannate astringency that produces obstruction and holds these seeds together to form these obstructions.

Dr. Hirsch (in closing): We have never been able to find the diverticula in any of our cases. The contention I make is that as long as these things are still and don't move you don't have pain. The one that I showed you had a rough edge on it, a little piece like the keel of a boat, a sharp edge, and moving along that would catch in the gut and cause a pain. It was large enough to go through but when it would catch he would have the pain.

I don't believe we would operate on him if we had it to do over. I think it is a fiber that you see in the persimmon that makes those seeds catch together and make these big things. They will do it in the stomach as well as in the intestine.

Another thing that I forgot to mention and that is very important in diagnosis of obstruction, is that if you put your hand on the abdomen and hold it there for five or ten minutes, giving the patient an opportunity to have a peristaltic wave or two, you can follow it up and catch it where it stops. It is the same way with congenital stenosis, if you watch it closely.

The trouble is that we are in too big a hurry. We are not careful enough in the examination of these cases, and I believe if we understand the causes of these things and why such and such takes place and look for reasons, we can see. In this first case, the man had had this obstruction for two years because he hadn't eaten persimmons for two years and the one in his stomach was as big as a baseball and the other two in his abdomen certainly gave him trouble but after he had the first attack about a month before he went a long time and lived comfortably in the interval between the first and second attacks. So they can stay there without causing any trouble. But when they move they cause the same symptoms, abdominal colic just as you have in gall stones.

In conclusion, I will state that obstruction from foreign bodies is accompanied by the following signs and symptoms, a very much distressed and painful patient—pains intermittent and of short duration—seat of pain changing in location with or after each dose of morphine. Naturally these patients have the foreign bodies sometime before producing symptoms and flare after patient eats a hearty meal or performs unusual exertion. I would like to know why the mortality is so high, and why lung complications so often follow?

Could these bodies be forced through the ileocecal valve or any other constriction in the bowel? And, if so, would it prevent the terminal lung changes?

THE MEANING OF BLOOD IN THE URINE.*

B. M. MCKOIN, M. D.,
MONROE, LA.

Bloody urine often confronts both the internist and surgeon, as well as those specializing in urology. From a diagnostic point of view, until recently its cause has been rather obscure, if not entirely unexplained. Diagnostic science in diseases of the geneto-urinary tract has progressed and students have developed refined methods so that we can determine with a certain degree of accuracy the cause and source of blood in most cases.

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In searching the literature on the subject of hematuria, I find, that McKenzie reports 821 cases of hematuria, 344 of which originated from the kidney; 90 from the ureter; 174 from the bladder; 119 from the prostate and 60 from the urethra. Of this series 126 were due to tumor; 204 to stone and 88 to tuberculosis.

Kretchmer reports 238 cases, with conclusions that 50% were caused by tumor, with tuberculosis and stone in order of their frequency.

Davis reports 46 cases in which his findings corroborated with Kretchmer.

Chute reports 100 cases, 49% due to tumor, 5% to renal tuberculosis, 4% to stone, and the others due to inflammation along the urinary tract.

In my series of 102 cases, 48 were due to tumor, 18 to stone, 2 to tuberculosis, 10 to trauma, 13 to inflammation, 1 to diverticuli and 10 undiagnosed—(essential).

It is not my purpose to deal with the techniques which have been worked out in all cases, but, to bring you a simple message, a practical one, that will be of value as well as caution when called to see a hemorrhagic condition of the genito-urinary tract.

In any given case of bloody urine, the question to be answered, is whether there is actual hematuria, and if so, is it "essential" or the so called non-essential type. Having this before us, then from what point is the blood coming, and lastly, what are the pathological lesions causing it?

Where there is marked hematuria, the question of actual blood can be easily diagnosed, but, in those case where only a small amount exist, it becomes necessary for a careful microscopical examination, or some delicate chemical test to demonstrate the presence of blood. Any number of red blood cells in the urine is pathological and should be thoroughly investigated, and proper medical or surgical attention insti-

tuted, because delay may mean years of suffering, and a long-drawn-out result.

When we study the anatomy of the genito-urinary tract, and the wide field from which blood may escape, then we can understand what a difficult problem it is for the general practitioner and surgeon to solve. Often times a close clinical history, the associated findings in the urine, and a most careful physical examination, including blood analysis, will solve the problem. In cases where the findings are negative, then a careful routine urological examination, with the modern instruments can give great aid.

In the study of bloody urine, one must be systematic, and not leave a stone unturned. If we find that it is renal type, then we should know whether it comes from the parenchyma, as it occurs in nephritis, stone, tumor, tuberculosis, and inflammation; or, from the pelvis, as in stone, tumor, tuberculosis and trauma, or, pyo-nephritis; or some peculiar condition of the blood as seen in scurvy, jaundice, hemophilia, purpura; or, leukemia; or, some general intoxication, as in malaria and typhoid fever; or, smallpox infection or due to taking certain drugs, such as urotropin, cantharides, and turpentine; or, as Kelly mentions, tabes, multiple neuritis and hysteria.

The ureteral pathologies causing hematuria, are stone, tumor, stricture and trauma. The bladder conditions are tumor, stone, inflammation, syphilis, arteriosclerosis and certain parasitic disease.

In prostate pathology, 50% of the bleeding is said to be caused by cancer, then inflammation, hypertrophic condition, trauma and stone. The seminal vesicles are noted for possible cause, and must be eliminated. Urethral hemorrhage usually can be easily demonstrated.

The differentiation of the several locations usually can be done with the endoscope, cystoscope, ureteral catheterization,

pyelography, retography, and the functional test, all of which are today at the command of any physician in most small cities of the land.

Differential diagnosis of the lesion is the key note to success for any physician in the treatment of any condition. It is always easier to be wise after the event, and the urinary hemorrhage supplies us with many examples of this truth. Anyone who thinks out the pathology will in the end find the truth.

Men of extensive experience in the use of the modern methods of urinary diagnosis have found it necessary to make exploratory incisions for establishing a diagnosis, and such service should not be stamped incompetent, and certainly does not diminish the value of the usual method of urinary diagnosis.

Bleeding from stones may be considered almost typical when associated with renal colic. The pain is usually referred down the ureter to the genitalia, or down the thigh. The kidney is usually tender on palpation, X-ray may or may not show a shadow, depending upon the type of the stone.

In tuberculous hematuria there is always a history of frequency of urination, just as in tuberculosis in other points of the genito-urinary tract. The urinary examination may demonstrate a few pus cells microscopically, and an acid urine, but, no organisms. This picture should always be looked upon as suggestive of tuberculosis. There is an added infection later, but, not in the beginning of the disease. Many microscopical examinations are negative, but, a continuous study for acid fast bacilli will after a time be demonstrated. The urine should be centrifuged for a long period, decanting the supernatant urine from sediment and recentrifuging before giving a negative report. Bleeding in these cases are rather peculiar in that they begin early and may be profuse and gradually

diminish. Cystoscopy may demonstrate the characteristic lesion about the ureter of the affected side.

Hematuria from kidney tumor is not always easily diagnosed, 60% to 90% are of the hypernephroma type, occurring in the first year, and the fourth and fifth decade of life.

The hemorrhage is more rarely seen in children than adults. A patient may get along many years with a large tumor, unsuspected, because the hemorrhage does not occur until after metastasis or erosion of the blood vessels. There may be no history of symptoms until the bleeding is noted, and the same holds true in bladder tumors. Any sudden onset of profuse hematuria, without apparent cause through a prolonged course, which does not yield to ordinary treatment is suggestive. In cases where there is a history of pain, a loss of weight, enlargement, along with bloody urine, the diagnosis can readily be made. The functional test is of little value except in cases where the renal parenchyma has been destroyed, and then only the separate ureteral tests are of any value to demonstrate from which kidney, and the capacity of impairment to kidney function. X-ray is valuable where it shows a tumor shadow, or filling defect on pyelogram. I believe exploratory incision should be done on all suspected cases where the findings are not satisfactory, since it does the patient no harm and may save a life.

Hematuria following injuries is said to be easily diagnosed from a careful history of the blow, gun shot wounds or some crushing injuries. These cases require careful, painstaking study, and always a cystoscopic examination.

Recently two such cases came under my observation; one, with a history of a blow over the right kidney, and there was evidence on the skin surface of the injury, but, a cystoscopy proved a profuse hemor-

rhage from the left kidney, requiring a nephrectomy. Another was an auto accident, showing no lesions on either kidney, no tumor or pain referred to kidney, but, urine very bloody. The cystoscopic examination showed a continuous stream of blood escaping from the left ureter. Exploratory incision was done, and a badly lacerated kidney was found from which, when the capsule was opened a sudden gush of blood came, and the patient died on the table. The surgeon acting on the history and physical findings in the first case would probably have lost the patient because the sound kidney would have been explored and maybe removed.

Hematuria of acute nephritis is rather difficult to distinguish from the tumor in the beginning. However, after a lapse of time, the hemorrhage clears up, then we find albumin and casts in the nephritic hematuria. The onset usually is without pain, palpation and functional tests are practically valueless.

Hematuria from the ureter is usually caused by stone, tuberculosis or tumor. It usually begins with ureteral colic, severe pain along the course of the ureter, either from passing clots or stones. Usually the ureteral catheterization methods determine the source of the blood.

Hematuria from the bladder pathology can be easily diagnosed provided there is no obstruction to the passage of the cystoscope to the bladder. The causes here are chiefly tumor, stone, foreign bodies, cystitis, blows, injuries or over-distention.

Hemorrhage due to tumor is very similar to that of kidney, a sudden onset, long duration, large in amount, difficult to control, lasting sometimes for weeks.

Hematuria from stone is of short duration, small amount and usually follows violent exercise. A history of having to lay down to void is very suggestive.

Hematuria associated with cystitis has a definite history, frequency tenesmus, and

urinary findings of pus and bacteria, as well as red blood cells. Syphilis should always be eliminated, as well as arteriosclerosis. Cystoscope again is a very valuable adjunct to differentiate the lesions causing the bloody urine.

Hematuria from the prostate is usually due to a large median lobe, which undergoes degeneration or carcinomatous condition, as Young mentions. Acute and chronic prostates, stones imbedded in the prostate substance are occasionally found to be the underlying factor in hematuria.

In hematuria occurring from the seminal vessels there is usually a history of premature and bloody ejaculation of the terminal type. On rectal examination, there are areas of tenderness, accompanied with nodes, general thickening of the vesical walls, or a swelling of the vesicle, and massage causes blood to flow through the urethra. In making the diagnosis it is rather difficult to distinguish this type of hematuria from that occurring from the posterior urethra in certain forms of vesicle cystitis, but usually with the cystourethroscope we can readily eliminate lesions along the posterior urethra, and vesical neck.

Hemorrhage occurring in the posterior urethra usually flows over the internal sphincter, into the bladder, while that occurring in the anterior urethra flows forward through the meatus. Terminal hematuria as occurring in these cases indicates without about two exceptions, that the pathology is anterior to the vesical neck. A small tone in the bladder impinging the vesical neck causing trauma to the mucosa at the end of the urination may cause a hemorrhage. The same condition may occur in cases of papillary tumors about the vesical neck eroding and causing terminal hemorrhage.

Prostatic calculi may intrude into the posterior urethra, giving a terminal hemorrhage. A hemorrhage from the anterior

urethra occurs in gonorrheal infection, using too strong solution, strictures, injuries, blows, instrumentation, intra-urethral chancroid and stone. There is rarely any difficulty in making a diagnosis where careful history is taken, microscopic examination of the urethral secretions, urethroscopic examination, and the use of a bougie aboule for stricture.

CONCLUSIONS.

(1) Hematuria is a symptom of pathology. Examination must be made while the urine is bloody.

(2) Subjective and objective symptoms should be thoroughly investigated.

(3) The pathology may be entirely obscure unless studied cystoscopically, endoscopically, microscopically and bacteriologically.

(4) Failure after full use of modern urological methods should be followed by exploratory incision if possible.

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THE RELATION OF THE GENERAL HOSPITAL TO TUBERCULOSIS.*

J. M. MOSELY, M. D.,

SHREVEPORT, LA.

The policy of the General Hospital has been one of exclusion to tuberculous patients, and when this general rule of exclusion is departed from the patients

are surrounded by such an attitude of fear and oft-times neglect that they are soon made to know that they are unwelcome.

Exclusion of these patients from the General Hospital is hard to defend and, in the light of our present understanding of this disease, is unjustifiable. The action on the part of the hospital in excluding tuberculous patients is the result of a widespread campaign against tuberculosis. Its infectious nature was given to the public in a manner easily understood which rapidly developed an unjustifiably morbid dread of this disease extending to the medical and nursing profession as well.

Tuberculosis is not the only infectious disease offering a risk to persons. There are others, equally as, and more dangerous to the patient and those of the hospital staff who must come in close contact with the infections which are freely and willingly admitted to the General Hospital. Who of the hospital staff would not prefer to treat tuberculosis rather than a gonococcus infection of the eye, or cerebrospinal meningitis.

Recent experimentations have proven that the virulent organisms are found only in the sputum, and we now know that the tubercle bacillus is a non-motile organism and has no intermediate host. If the proper precautions of covering the mouth, when coughing or sneezing, with a burnable material are followed, droplet infection is absolutely prevented. When the sputum is properly disposed of, by having the patient spit directly into a paper cup, which is burned, there is no danger of infection for the adult.

It is a known fact that the percentage of nurses and staff contracting tuberculosis in tuberculosis sanatoriums is far less than in the General Hospital.

In the light of present teaching we must confess that enthusiasm and energy more than skill were used to impress upon the public the infectious nature of this disease

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and a belief has been left that the tubercle bacilli existed everywhere. This led to an exaggerated idea of the infectious nature of the disease. While there is a tendency on the part of the public to depart from this irrational view, it will be a long time before it is willing to accept the present day belief and observation that tuberculosis attacking the young adult life is usually due to an infection in early childhood, seldom being conveyed from adult to adult, through contact or association.

The hospital of yesterday is not the hospital of today, nor will the hospital of today be the hospital of tomorrow, for these institutions are fast recognizing and assuming their responsibility to society. Examples of this are seen in the building of better hospitals, adding needed and more modern equipment; cheerfulness and sanitation is being enforced as never before, and ideas of the prevention of disease are being given to the patients.

The General Hospital occupies a position midway between the medical profession and society, and is no longer a crudely constructed repair shop for the mending of human beings—satisfied with primitive ideas and methods—but is fast moving to a strategic point, where, with their consent this disease, which has hardly been checked, can be met in the wards at the bedside of the patients by the combined efforts of the medical profession and society, for a final eradication of the disease.

The result of the hospital closing its doors to tuberculous patients has had and is having far-reaching effect. If the tuberculous patient is to be given the best chance for recovery, this common disease must be detected in its incipency. This oftentimes taxes the skill of the most expert clinician, yet these patients are excluded from the General Hospital, thus, unfortunately, allowing the doctors receiving their training in the General Hospital, as a rule, to go to the public probably less prepared intelligently to advise and treat tuberculosis,

than any other disease, with which they will have to deal. Training offered by the hospital to the nursing profession for the proper care of these patients amounts to practically nothing; they, too, like the medical students, leave the hospital with slight knowledge of one of the most common of all diseases.

For the General Hospital to do its share to those suffering from this disease it is not necessary that they openly advertise to the public that they are prepared to care for those suffering from tuberculosis. It seems, that, without attracting undue public attention, they could provide suitable wards where these patients can be kept, with little danger of infection to others. This would give opportunity for working up the border line cases, allowing the proper final segregation of these patients and provide comfort for those who have but a short while to live. Thus, providing for these patients, the public would know, that in their midst, is a place to which they can turn as a port of safety.

This phthisophobia affecting the general public would, to a great extent, be allayed, if patients could know that they would no longer, when diagnosed as tuberculous patients, be rushed away, in many instances with limited funds, to watch, as it were, this race between time and the infection, being satisfied to accept a verdict of either cured, arrested or unimproved.

An economic phase of admitting tuberculous patients to the General Hospital is to be considered. Instead of the separate tuberculosis sanatorium in a community, with its independent maintenance, building, and administrative expense, wards can be added to the General Hospital and the same results obtained, as in a separate institution.

To sum up, it is evident that there is need of accommodations for treatment of tuberculosis in General Hospitals. First, for the good of the patient; second, giving

opportunity to the physicians and nurses to learn tuberculosis, in the end must benefit humanity.

DISCUSSION.

Dr. Henry Boswell (Sanatorium, Miss.): It is worth my trip over here, to say nothing of the pleasure I have had in my associations for the past two days, to hear a paper read in the South advocating the use of general hospitals for the care of tuberculous individuals.

For a number of years, as a member of the National Board of Control of Tuberculosis, we have advocated that some beds be set aside in the various community general hospitals for the care and treatment of this particular disease, but owing to the fact that our people, as the doctor has so well said, are afraid that if they open their mouths within three hundred miles of a tuberculous individual they will become infected at once, we have been unable to put it over.

We know that today, as the doctor said, a case of tuberculosis can be handled safely in any institution provided the head of the institution or the ones in charge of the institution are able to give the correct information to the patient, guarding against the danger of the sputum and teaching the patient the prevention of the spread of this infection and guarding particularly against the excreta. We fellows who are dealing with tuberculosis from day to day know that in almost every stool of the average patient tubercle bacilli can be demonstrated if carefully handled because of the fact that however careful they seem to be people swallow some of the sputum containing the bacilli and they are passed through.

Whether a general hospital can be handled in such a way as to take the place of a sanatorium is a very doubtful question and in all probability it would be necessary in the average community of any size to have a separate institution. It might be under the management of the same board of directors, the same business manager, etc., so as to save the overhead operating expenses, but it would be necessary, perhaps, on account of crowded conditions to get away.

We have recently developed an innovation (some of the men have been working on it for the past two or three years), bringing in one type of tuberculosis to the general hospital, and that is the inflation of the peritoneal cavity with oxygen to handle tuberculous peritonitis. In my opinion within a few years if the future results continue as promising as the experiments all tuberculous peritonitis will be handled in institutions such as general hospitals.

The question of bringing to the people's minds the educational value in the general hospital is one that is of extreme importance to every man who is fighting with the idea of some day controlling this particular disease. The education of the nurses at the present time is inadequate, with all due respect to all of the general hospitals. I hire and use only trained nurses or supposedly trained nurses in all my work. They have to be re-trained in the handling of tuberculous individuals. If the general hospitals assigned a certain number of beds to this condition, we certainly could have turned over to us competent trained nurses, or get a co-operative working organization between the general hospital and existing sanatoriums whereby our nurses might be trained in the handling of this disease.

Then, too, the training of internes. It is a regrettable fact that the schools of this country are not teaching properly the examination of the chest. Many of them are not. Some of them are, perhaps, but so far as diagnosing early tuberculosis, the average interne who comes to my service is just as I was when I came out of school, knows just about as much about examining a chest for early tuberculosis as I would know about examining some man for a disease I had never seen.

To quote further from the doctor's paper, he refers to nurses or the medical staff breaking down in institutions for the treatment of tuberculosis, etc. After many, many years of service I have never seen an individual break down as a result of contact in an existing, well-organized sanatorium, but every day or every week I have heard of nurses from general hospitals who have broken down with the strain of doing the first two or three months of their work of scrubbing floors and worrying about whether they are going to be admitted or not. I have never yet come to feel that scrubbing floors is a part of the training of a nurse and why they are required to be servants for three months before they take training, I can't see. I think it would be just as reasonable for a student of medicine to have to serve as janitor of his college for three months before he was admitted. Day after day they are sending us the victims down our way. I want to say again that I am delighted to hear my first paper in the South on this particular subject.

Dr. Wallace J. Durel (New Orleans): I am glad to state that Louisiana was the third state in the Union that established a tuberculosis department in a general hospital. In 1912, some time before Johns Hopkins or Harvard or any other general hospital, New Orleans had its private wards, now it has the whole building and soon will

have the wonderful gift of Mrs. Dibert, a first-class tuberculosis hospital. Louisiana is not behind. Louisiana hasn't read papers on the subject. It has gone forward and organized its own tuberculosis department to give the example. But, gentlemen, the example has not been followed by other institutions and I hope that the words of Dr. Boswell will be impressive to you and make you think of the matter.

Just think of the number of tuberculous patients in general hospitals that have come there for operative work, and as I said in an address given to the teachers' association, your nurses have sometimes gone into the Charity Hospital where nothing is known as far as the nurses is concerned of the patient's condition, whether he is tuberculous or not. The nurse, unknowingly, comes in close contact, takes no precaution whatever, and when this nurse develops tuberculous lesions, who is to blame? You gentlemen who are at the head of general hospitals are to blame for the deaths of these girls. The superintendent of nurses ought to be blamed for allowing them to approach the beds of these general hospitals where there are tuberculous patients.

It is a serious responsibility. The chief thing that has prevented these conditions from being modified is the great belief that tuberculosis cannot be treated anywhere but in high climatic regions. Fourteen years ago when I came before the hospital board they thought me an insane man and now I am glad to see that with all my insanity on that subject things are being placed on a good footing.

If the town has no institution large enough, it can have an annex for tuberculosis patients; if it has, however, a tuberculous institution in its midst, no doubt the nurses and our students can be trained in those institutions and made to believe and know that there is no more danger as far as approaching the bedside of a tuberculous patient is concerned. No more should the nurse avoid such cases.

It is very amusing in the Charity Hospital. My internes will not come near a tuberculous patient unless they are compelled to do so. We do not have student nurses of the graduating class because the student nurses in the training school have been taught to stay away from such places. Well, then, why become a nurse? Is she going to slink from the bedside because there is danger?

It was very amusing the first time I went into the Charity Hospital in 1912, the nurse came in with a handkerchief over her mouth. She didn't want to breathe in that ward. If she had

been properly educated, she would have known that with proper precaution there was no danger.

The hospitals that are thinking of having an annex for tuberculous patients should cater to far-advanced cases or bedridden cases, hospital cases. Oh, no doubt it will not suit some of us physicians because, gentlemen, it takes courage to treat nothing but advanced cases. No doubt, there is much more advantage to the physician in charge in treating incipient cases and putting out a wonderful list of recovered patients, but it is as great a reward when you have faced death every day, day in and day out, to see as we have in Charity Hospital about forty per cent of the far-advanced patients brought in there and leave at least in a condition able to walk out of the hospital, many of them to be self-sustaining. And as to the ones who die in the hospital, think of the number of patients that would have died as paupers in the streets, in the gutters, if it were not for a proper building in the Charity Hospital.

Let us not wait any longer. Let us see that all hospitals have some precautionary method. At least let us protect our nurses from infection. Let us protect our doctors from infection from patients that are in general hospitals. There is more infection being carried about in the wards, surgical and medical, of general hospitals than there is in any tuberculosis hospital.

Dr. H. C. Mosely (Monroe): I was particularly anxious to discuss this paper in that it was my brother that read it. Brothers have been interested in what other brothers have been doing for a long time; for instance, Cain and Abel and Jacob and Esau.

I had the privilege and pleasure of serving on a tuberculosis commission in El Paso, Texas, in 1919, just after the World War, trying to rehabilitate some soldiers. The reading of this paper is timely in Monroe. The hysteria that surrounds a patient when you tell him that he has tuberculosis is almost like the ravings of a Lady Macbeth. If it is not the patient, it is their people who stand away off. They follow that patient possibly like Peter followed Christ, at a distance. They have unwarranted fear of that condition.

In our postmortems that we held during the war, we found robust, sturdy men that had been rehabilitated without their knowledge before they came into the service. We held a postmortem on one boy who died of the flu. He took the flu one day, had the streptococcus hemolyticus infection, the acute kind, and died. The post-mortem showed a tuberculous cavity that you could put your fist in. That boy played center

on the team sent out by the Army and Navy General Hospital at Hot Springs, Arkansas, where I had the pleasure of being the chief of the surgical service.

In regard to the other things they tell of George Washington, and these stories circulated about him just lately, one I think is that he had tuberculosis. It is generally conceded that Andrew Jackson, Old Hickory, had tuberculosis.

Nevertheless, people feel that when you tell them they have tuberculosis they are doomed, the curtain is run down on their activities. There are a lot of things that make a person more dangerous to a community and I have often wondered why they take an old Negro with syphilis and keep him there at the expense of the State and yet deny some promising young man the privilege of getting well in his community among his friends, where he is accessible to his friends.

Statistics will not bear out that more people get well in El Paso than they do in Pittsburg. The point that I want to make to the people of Monroe, because I know there is an hysteria here and I feel it, about sending people to El Paso, El Paso is a mecca. It is a place where they go to worship at the shrine of health. And I want to say this, that the statistics do not bear out that more people get well in El Paso than do in Pittsburg with the proper surroundings. The treatment of tuberculosis is rest, it doesn't make any difference where it is, in a joint or in a lung. The treatment is rest and sunshine and contentment.

Milton said a long time ago that the mind is its own palace and of itself makes a heaven or hell. The same thing applies to a disease, if you take that person away from his surroundings and out of reach of his home. A man with a family when sent out there is restless and can't sleep. God Almighty showed to the world and to people that the best way to conserve energy and to conserve power is to put an animal to sleep. When He got ready to conserve a bear through the rigors of a winter, He put him to sleep. If you want that bear to die, keep him awake.

Dr. J. A. Danna (New Orleans): If the previous speaker hadn't mentioned George Washington and these other great celebrities as cured tuberculosis cases, I would probably have kept still, but I happen to be a cured tuberculosis case myself and that is the reason for my interest in this work.

I have been preaching in New Orleans for some time collaboration of the various forces that are fighting tuberculosis, and of all the forces

that are fighting tuberculosis there is not one force which is greater, which is more potent for good, than a tuberculosis department in a general hospital.

General hospitals are usually situated in large populous centers and if you don't make the place where tuberculosis patients are going for medical attention handy and easy to get to, many patients are going to neglect getting attention until they are so sick that somebody carries them wherever they have to go. Therefore, I say that you should have a first-class department of tuberculosis in every general hospital.

I am very glad to corroborate what Dr. Durel says about the new department of tuberculosis in the Charity Hospital. It is going to be in a building built especially for the purpose and I think will be at least the equal of any such building in the United States.

Once more let me stress the fact that all the forces working to fight tuberculosis, instead of overlapping each other, should try to work together to accomplish a common good.

Dr. C. P. Gray (Monroe): Just two things prompt me to say a word under this heading. The first is that in my opinion all general hospitals should have some provision made for the care, either temporary or permanent (that is a detail to be worked out by the state in my opinion), of tuberculosis patients.

For instance, here in Ouachita Parish we are at liberty to send an operative case or a medical case to Charity Hospital in New Orleans or Charity Hospital in Shreveport and we know that patients will be cared for to the very best of the ability of superintendents of those hospitals. Now then, we have a patient with tuberculosis. Neither hospital accepts those patients. I can cite you today three cases west of the Ouachita River that are in dire circumstances and are not able to buy medicine or food, dying of tuberculosis.

The state should make some provision for this class of patients. I agree with Dr. Mosely thoroughly that when they take care of a case of syphilis or syphilitic aortitis, tuberculosis being just as prevalent as syphilis, that some arrangements should be made for the care of tuberculosis.

The next point is, climatic conditions. A person in Ouachita Parish develops tuberculosis. He wants to go west. Why? In my opinion it is all wrong. I believe I am correct when I say that according to government report, Dr. Durel can bear me out on this, Louisiana around Cov-

ington and the southern part of the state has climatic conditions second best in the United States. If my memory serves me correctly, that is something similar to the government report. So then, why should a person leave here and go west unless he has an unlimited amount of funds. As Dr. Mosely so well brought out, what you need for tuberculosis is rest and food.

Dr. Danna: May I clarify a statement? Did you say that the Charity Hospital in New Orleans will not take tuberculosis cases?

Dr. Gray: That is my impression.

Dr. Danna: I think you are wrong and I will be glad to see that they get in there if you send them to me.

Chairman Seemann: The facilities are such that it is sometimes impossible to take them, just like appendicitis cases or any other condition, but I believe they accept them as long as there is room.

Dr. Thos. E. Wright (Monroe): In the care of tubercular patients, our treatment which includes general care may come under two headings. One is the home treatment when for some reason or other they must stay at home and have to be treated there, and the other one is hospitalization.

Now unless it is imperative that they do stay at home, I can't help being in favor of all tubercular patients, where there is any opportunity of doing them any good, being hospitalized. If they are hospitalized, it must be either in a pay hospital, like a private sanatorium, or must be in a general hospital—I mean in a pay hospital or a charity hospital. In other words, under the head of general hospitals comes your private sanatoriums, your general hospitals where patients pay and your general hospitals where treatment is free.

In Louisiana undoubtedly many more people who have tuberculosis would go into hospitals if they felt that hospitals offered to them the work of specialists as we have in this particular department of the Charity Hospital in New Orleans and some others I could mention. If the work that is being done in the New Orleans Charity Hospital could be part pay and part charity or all charity in selected cases, they would have many more applicants even than they have today.

This line of thought leads us up to a general state plan or state program. There are many hundreds of people in Louisiana today with tuberculosis who would go into a sanatorium owned and controlled and operated by the state, either

part pay or all free, as they have in Mississippi and Georgia, and as the work is being done so successfully there.

It is remarkable how people resent the fact that they have to go to a charity hospital for tuberculosis. I am not disagreeing with the author of the paper when he advocates that they go to a general hospital, but I do say this, that the average general hospital offers very little to your case of tuberculosis because of the lack of skill on the part of the teaching force, of the nurses and the doctors who attend them there. You have only the skill of your attending physician plus the average skill of your average nurse.

In other words, if you had tuberculosis where would you want to go? I would want to go to a place where at least it was part pay, not charity. I would want to go to a place where every person connected with that institution had a keen insight into the care and treatment of tuberculosis patients and where people wouldn't be afraid of it, where all the hysteria, as Dr. Mosely mentioned, had been eliminated, where people wouldn't mind talking to you even though you had it because they either had recovered from it or had it at the present time.

I am thinking of it from a state-wide viewpoint. In view of the fact that the inability of Louisiana hospitals to handle the vast number of people who should be hospitalized in Louisiana is so evident, it becomes a state problem and the state must be responsible for them to that extent which the state will assume. Sooner or later the Legislature will make provision for it, and it is not a pipe dream when I say we may have district tubercular sanatoria in Louisiana. We have eight congressional districts and a district sanatorium, owned and operated by the state or partly owned by the parishes which make up the district, would take care of it.

For example, in the Province of Saskatchewan all of the hospitals in this province under the Canadian law must set aside five per cent of their beds to be used exclusively for tuberculosis patients. One dollar per day is paid by the government to these hospitals for each tuberculosis patient confined therein, provided the patient is unable to pay for it. By this general hospitalization plan in every hospital in the Province, they have reduced, according to the statistics they give us, their mortality percentage of tuberculosis patients admitted to less than nine per cent.

Sooner or later we are coming to it and the state must accept this responsibility. When it does we will fall in line and be put on a basis

similar to Mississippi, similar to Georgia and similar to the Province of Saskatchewan.

Dr. Mosely (in closing): I wish to thank the doctors for the liberal discussion of this paper and to say that we all know we have this condition but we haven't provided a remedy. At Charity Hospital of Shreveport, we lost one unit of the Hospital, three wards, by fire, and in rebuilding this unit we have asked the architect to draw plans whereby we will be able to use the roof of this wing of the Hospital to care for some of the unfortunate patients that are brought to us almost dead giving them some degree of comfort until they die.

I think that if the profession of this state and the citizenship at large could be superintendents of a charity hospital for awhile and see the unfortunate people that come there and that are turned away without hope, when the Legislature meets they would be down there and demand that a fund be given to start the work to provide a place where these patients can go for care and treatment.

THE ACTIVITIES OF THE U. S. PUBLIC HEALTH SERVICE IN THE SOUTH.*

JOHN MCMULLEN, M. D.,
*Surgeon, U. S. Public Health Service,
Medical Director Fourth District.*

The average span of human life in this country is now about 56 years. When this is considered in relation to the span of life of comparatively a few years ago, it is astonishing to note what great progress has been made in the conservation of human life.

In past ages it was exceptional for an individual to live to what is now the expectancy. There was a total absence of knowledge as to the proper care of the body and absolute ignorance of hygiene and sanitation. War and disease, therefore, claimed their victims in millions annually and the wonder is that any survived.

This remarkable increase in longevity has not been wrought by miracle, nor has

it been accidental. Naturally, therefore, we inquire as to the reason. The answer is scientific knowledge of the cause of disease and modern laws and regulations made as a result. Improved sanitation has been a very important factor in increasing longevity.

Disease is largely due to the ignorance of man and there is still much superstition concerning its cause. Communicable diseases are still unduly prevalent and the continued presence of smallpox, typhoid fever, etc., leaves much yet to be done.

Future historians will probably say that we of today were sadly lacking in knowledge of disease and preventive medicine. We know positively how smallpox can be prevented and have robbed this disease of its former terrors. The material fall of the death rate during the past one hundred years has been greatly influenced by vaccination for smallpox. Despite this fact, the smallpox case-rate in this country is now apparently the highest of any civilized country in the world. In the calendar year 1924, reports from 35 states showed an increase of 75% in the number of cases and a large increase in the death rate.

It is indeed strange and certainly unfortunate that people continue to resist vaccination. Smallpox has been unduly prevalent in many states during the past winter and it has been difficult, by reason of prejudice, ignorance and indifference, to get the people to accept vaccination.

In some of our larger cities during the past year there has been a substantial and widespread increase in typhoid fever. Some speculation has been indulged in as to why 1925 should have been a "typhoid year." We are very well informed as to the manner and conditions under which this disease is spread, as well as its prevention, and it should be acknowledged that this increase has been due to the fact that we failed to put this knowledge into practice. The combined effort, therefore,

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of an intensive campaign to utilize our knowledge and educate the public to accept it would bring far better and more practical results.

In the promotion of public health and the practice of preventive medicine, it is co-operation between State, local and Federal health authorities that accomplishes the most good to the most people. It is only with this co-operative partnership that we can hope to overcome prejudice, educate the public and finally practice that which we know by scientific investigation to be the proper procedure.

With this same idea of co-operation and to bring about closer co-ordination in Service work and to promote efficiency, the Continental United States has been divided into six Public Health Districts. An experienced commissioned officer of the Public Health Service has been assigned to each of these as Director of the District.

The District of the Gulf, or District No. 4, comprises most of the Southern States, and is sometimes referred to as the Southern Area. This district is comprised of Florida, Georgia, Alabama, Mississippi, Louisiana, Texas, Oklahoma and Arkansas. The writer is assigned as the Director of this Southern Area with headquarters in the Custom House, New Orleans, La.

Although this decentralization is recent, it has proven very satisfactory, serving as it does to promote cordial relations and better understanding with State and local health officers. Such relations and understandings tend to obviate unnecessary delays in emergencies when co-operation is indicated and immediate action essential. The several states function in the State under their own health laws, while the Federal Government, in public health matters extends over foreign intercourse, interstate intercourse and Federal Territory. The U. S. Public Health Service deals with all matters of health relating to international and interstate intercourse.

It is, of course, most desirable that the States care for the intrastate problem but the Service is always desirous of complying with requests from the State Health Officers and to render such advice and assistance as possible. Indeed, there seems to be an increasing recognition in Washington of the rights of States to take care of their own internal affairs and criticism of the fifty-fifty plan is more and more pronounced.

It is believed that the Public Health Service can be of greatest aid to the States through research. Research work is a fundamental function of the Federal Government and broad authority has been established for the conduct of investigations in the interest of public health. The extent to which research may be conducted is limited only by the facilities provided. In the interest of the States, their facilities should be utilized, when practicable, in this connection.

From the viewpoint of the national quarantine, the District of the Gulf or Southern Area is the most important of all sections of our country. Although scientific knowledge and the progress of modern medicine has minimized the importance of quarantine, it is still necessary to guard against the introduction of those diseases designated in the Federal Quarantine Regulations.

In the light of our present knowledge radical changes are warranted in our Federal Quarantine Regulations and there is no doubt but that they will have to be re-written in the near future.

Of all the major quarantinable diseases, yellow fever has always been the one most feared and dreaded in our Southern States. Before we learned of the *aedes aegypti* in connection with the spread of yellow fever, the strictest quarantine was enforced and, since we were dealing with an unknown enemy, was entirely justified as the best known method of protection. Quarantine

stations were established in the most isolated places and the farther away from civilization the better, was the idea of the best minds of the time. The quarantine station for New Orleans was placed ninety miles down the river from the city; Tampa Bay, Florida, Quarantine Station was established at the mouth of the bay and 35 miles from Tampa; Key West, Florida, was guarded by the station on Dry Tortugas, 65 lonely miles distant; Savannah, Georgia, at the mouth of the river in a vast marsh. About the only solid ground at this station is rock ballast removed from vessels. This rock was taken from vessels and each piece carefully dipped in bichloride solution to prevent its spreading yellow fever. To add to the gloom and loneliness of these isolated spots, the festive mosquito was present in multitudes. Tortugas station was abandoned some years ago but the others are still at the same location. It is hoped, however, that all quarantine activities will soon be performed in the ports and the isolated stations be retained only as auxiliaries in the event it should ever become necessary to care for an infected vessel there.

The constantly increasing congestion of our country and improved facilities for rapid transportation render it more than ever necessary that the Federal Government have full charge of maritime and border quarantine stations and these are now under the Federal control and operated by the U. S. Public Health Service. It is indeed fortunate that our modern knowledge of preventive medicine preceded the present age of rapid transportation facilities.

While the quarantinable diseases are cholera, yellow fever, smallpox, typhus fever, leprosy, plague and anthrax, yellow fever and plague give us the most concern at the maritime stations. Although we are in constant communication with ports infected with plague and yellow fever, there was no importation of these nor other

major quarantinable diseases during the past year. The incidence of yellow fever throughout the world, during the past year, was the lowest ever recorded. It was also the first year practically in the history of the United States quarantine that there was no detention of ship's passengers or crew on account of yellow fever.

With our present knowledge we are justified in removing a case of yellow fever from a vessel and placing it in a modern city hospital, provided, of course, it is done with the patient constantly protected from the bite of the *aedes aegypti* by mosquito netting. In fact, any disease can now be so removed under the proper precautions.

The quarantine station is the first line of defense but the Marine Hospitals of the Service are the second line of defense. The quarantine stations should therefore be brought into close proximity to the Marine Hospitals in order to co-ordinate more advantageously these two arms of the Service, and this idea is concurred in by the local health authorities.

Bubonic plague is still prevalent in many parts of the world as an ever present menace. In December, 1924, rodent plague re-appeared in New Orleans for a short time. Upon request, the Public Health Service assumed direction of measures for its suppression. A determined campaign was promptly inaugurated with the result that within six months after the last plague rat was found and less than eight months after the reappearance of rodent plague, New Orleans was declared to be free of this disease. As a measure of extra precaution, trapping, etc., was continued for about three months longer. This very effective campaign was made possible by the prompt, thorough and substantial co-operation of the State and City health officers and bacteriologist. All laboratory work in connection with this campaign was done under the able direction of the State

and City bacteriologist, whose services were most valuable.

The maritime quarantine is conducted in accordance with the Rules and Regulations prescribed by the Treasury Department, with the idea of the least interference with shipping compatible with safety to the public health.

The border quarantine is very important and is concerned with smallpox and typhus fever in addition to yellow fever and plague. One-half of the United States-Mexico Border is in this Southern Area, and these diseases, potential dangers at all times, permit of no relaxation in public health work. When it is considered that this Texas border is about 1000 miles in length, it is rather surprising that more quarantinable diseases have not been brought over. Some years ago the border was visited by a mild typhus in the form of Brill's Disease. The Public Health Service has now established inspection and quarantine stations along this border at strategic points. All unprotected persons are vaccinated against smallpox before they are permitted to come into this country. Vaccination has now become such a routine practice that practically all persons on the border are protected from smallpox. All passengers, regardless of class or mode of travel are required to pass inspection.

These stations are equipped with shower baths and steam or hot air sterilizers. All persons with lice are detained, bathed and their clothing thoroughly treated in the sterilizers for the destruction of lice, before being allowed to come into the United States. Head lice are destroyed with local applications. Large numbers annually, of persons (mostly Mexicans), are bathed and their clothing disinfected at these stations.

For some years an intensive campaign against the *aedes aegypti* has been conducted along the Texas border from

Brownsville to El Paso and extending as far east as San Antonio. The purpose of this campaign was to obtain a low aedes index (under 5%) to guard against the invasion of yellow fever. This work has been done with the co-operation of the State and local authorities of Texas. In view of the continued absence of yellow fever in Mexico, this mosquito work will be discontinued at the expiration of the current fiscal year.

The Service has for some years conducted a malarial campaign in co-operation with a number of States. While some sections are relatively free from this disease, there are others where it is still a serious health problem.

Attention is invited to the efficiency of the Service hospitals in this District. These have been very greatly improved and are now modern hospitals where the patients receive the best scientific care and treatment. The result is an increased number of patients.

The Marine Hospital in New Orleans is sadly in need of a new building. Despite this handicap, however, this hospital has a daily average of about 375 patients—a very material increase over a few years ago. It is hoped that a new building will soon be erected.

The leprasorium, at Carville, La., now has about 260 patients and the number is constantly increasing. This is now a modern institution where leper patients receive the most approved care and treatment. Patients are being admitted practically daily from the various sections of the country, thus relieving the States of the burden of caring for them.

Marine Hospital No. 9 at Fort Stanton, New Mexico, has 233 tuberculous patients under treatment.

The last immigration law, materially restricting immigration, was most laudable legislation. It is unfortunate, however,

that it was not enacted many years ago. The mental and physical examination of all incoming aliens is done by the Medical Officers of the U. S. Public Health Service, whose duty it is to detect and certify to the immigration officials the mental and physical defects contemplated under the immigration laws. Under former laws, one million aliens landed in this country within a twelve months. It is therefore no wonder that the mentally defective and insane were landed and it is this class which is the most important to exclude. Indeed the exclusion of these mental disorders is of even greater concern to this country than is the quarantining of cholera, smallpox, etc. The law provides for deportation of the various mental disorders. This portion of the law, however, was not intended solely to prohibit this class of people from merely becoming public charges. It was for a more far-reaching effect and was in order to exclude those aliens who are physically, mentally and morally undesirable for parenthood—those who will produce an inferior race—the standpoint of national eugenics. This country was founded and developed by picked men and women and it is our duty to select the best specimens for the parents of future citizens. The mental defective begets his kind in ever increasing numbers. We are living in a progressive age. Those clergymen and others who have declared themselves in favor of marriage only between those mentally and physically fit should be considered as pioneers in the great field of eugenics.

The time would not permit, nor is it intended to attempt to describe in detail the many problems in which the Southern States and the Public Health Service are co-operating such a pellagra, rural sanitation, trachoma, sanitation of milk, shellfish sanitation, morbidity reports, stream pollution, child hygiene, Brill's Disease, venereal disease, sanitary engineering, control of biologic products, etc.

It is very gratifying to note the cordial goodwill and co-operation of the State and City health officials with the Service. Such a partnership and co-operation will hasten the day when preventive medicine will overcome disease as the result of combined efforts and tremendously increase the span of life.

The writer feels that, as Medical Director of this Southern Area, should he not acknowledge the material assistance, hearty co-operation and loyal support of the health officials, he would be negligent in his duty. Situated in Louisiana as is the headquarters of this District, these acknowledgments are particularly applicable to the health officials of this State.

DISCUSSION.

Dr. N. F. Thiberge (New Orleans): Dr. William Mayo in his brilliant talk the other night stressed the necessity of the doctors taking recreation, and I think that it would be well for us to request the Government to help in a movement to establish tourists parks all along the highways to increase the facilities for recreation and sports. I think there is no better way of increasing the span of life and its enjoyment. Therefore, I should think that the Government would seriously think of fostering and helping a movement of that sort which has already been started in this State.

Dr. Charles R. Gowan (Shreveport): I presumed that this paper was not to be discussed because the essayist is the supreme authority as far as we are concerned. We can express our appreciation for his presence here and the splendid co-operation he has given us in the attempt to protect the health commissions. It is fortifying to have him here and I want to embrace this opportunity of telling all those present, if any of you have an epidemic in your communities, there is not a better expert on this trouble than Dr. McMullen. He has demonstrated that in other places as well as in his splendid work in controlling communicable diseases not only in the United States but throughout the world.

Surgeon McMullen: I have nothing further to say, Mr. Chairman, except in answer to the doctor's remark. We had a meeting last fall which was designated as a "Mosquito conference." Most of you were present. At that time it was determined that one of the first things that we want to take

up is the elimination of the mosquito, one of the troublesome things. At that time it was determined by that conference that a survey should be made to determine what the real problem was. Estimated expenses were to be about \$50,000. A committee was formed to work out plans and obtain the amount of money and start the survey. Just what has been the result I am not informed but it is hoped that it is going forward and that we will arrive at some very definite conclusion.

PROBLEMS IN SURGICAL DIAGNOSIS AND TREATMENT.*

ISIDORE COHN, M. D.,

Associate Senior Surgeon, Touro Infirmary; Professor of Clinical Surgery, Tulane University,

NEW ORLEANS.

Co-operation leads to greater success in surgery as in every other field of human activity. If there is a surgeon who has never felt the need of co-operation with his colleagues or one who has not been forced to co-ordinate facts from the literature my remarks would have no appeal for him. The great number of medical meetings testify to the doctor's unsatisfied desire for more information. Emphasis is being constantly placed on the necessity for more accurate diagnosis before instituting treatment. Dr. John Gibbon in his presidential address before the American Surgical Association, 1926, said: "The advancement of the art of surgery will come not with the invasion of new anatomic fields nor with the further perfection of technic, but will come with increased knowledge of the cause and prevention of disease, with the improvement in diagnostic methods, with the exercise of better surgical judgment and with a broader knowledge of general medicine."

Your desire for the discussion of some of the laboratory aids in diagnosis and treatment was expressed in your invitation to Dr. Elizabeth Bass, for whom I am substituting. I therefore felt that I could do

no better than to attempt to discuss briefly some of the more important diagnostic measures which are not used as often as they should be; briefly to discuss the question of surgical judgment and the need of a broader general knowledge of medicine.

The first of the physiological laboratory methods which needs a broader and more general use is blood chemistry. Knowledge of the value to be attributed to the estimation of the carbon dioxide combining power of the blood; chloride contents; blood sugar and nitrogen contents is absolutely indispensable to the scientific practice of surgery.

It is hardly conceivable that anyone doubts the value of blood sugar determinations. By careful observations and the judicious use of insulin, surgery in the presence of diabetes, has become almost as safe as surgery on non-diabetic patients. It is within the memory of most of you when a case of diabetic gangrene like the following would have been considered almost hopeless, at least there would have been a very grave prognosis. With the co-operation of the laboratory and the skilled internist, operation produces no untoward effect immediately, and the patient makes an uneventful recovery.

ILLUSTRATIVE CASE.

Mr. W. C.—8863: 9-2-25, age 64. Referred by Dr. I. I. Lemann for operation. Patient has been treated in the diabetic clinic for more than a year, receiving as much as 36 units of insulin daily. During July, 1925, an ulcer which he had on his foot was almost healed, only a small area of redness remained. During the past two months pain in the foot had become so severe that he returned for consultation on December 3, 1925.

Our findings were: Large excavated ulcerated area on dorsum of the foot, corresponding to the level of the 3rd and 4th metatarsals. This area is irregular in contour with punched out edges. The entire surface is covered by a thick foul smelling dry scab. On the outer side of the dorsum of the foot, beginning about the web between the great toe and the first toe and extending backward to external malleolus, the skin is glossy and there is a reddish violet hue. The fourth toe has a distinct violet color. The plantar surface

*Read before the Seventh District Medical Society, Lake Charles, September 23, 1926.

of the foot has a similar appearance to that described for dorsum of foot. The skin is cold. Pressure produces pallor with a slowly returning reddening tint. There is a loss of sensation of pain in the fourth toe. Hyperesthesia in other toes. Dorsalis pedis pulse not palpable. Posterior tibial pulse not palpable. Recommendations: Immediate amputation just below knee. Gangrene-diabetes-arterio sclerosis."

X-rays showed marked arterio sclerosis of the anterior and posterior tibial and dorsalis pedis.

Operation December 4, 1925. Amputation about four inches below the knee. (Circular amputation.) The only interesting phase of the operation was the fact that the vessels were all noted to be thickened walled, and there were calcareous deposits in them. The lumen of the vessels at the level of the amputation were patent, and the vessels bled freely when allowed.

After ligating all of the vessels, the stump of the tibia was bevelled, muscles whipped over, the skin closed without drainage. Posterior plaster splint applied.

During the course of the operation 20 c.c. of 50% glucose and 20 units of insulin were given intravenously by Dr. Young.

Progress record:

12/5/25—10:05 A. M. Patient awoke from anesthetic on table, drowsy all day, probably due to morphine. No nausea or vomiting. CO₂ vol. before operating 50.4, after operation 47.6.

12/6/15—This morning he is brighter and very much better.

12/21/25—Wound dressed, slight retraction of wound edges about the size of 25 cents. All stitches removed, no evidence of any infection. Crutches were not advised due to the condition of arteries, as it was thought that trauma might lead to the same trouble in the upper extremity.

When last seen the wound was entirely healed. The stump was not giving trouble.

The value of carbon dioxide combining power of blood, and chloride determinations are not generally appreciated. Almost any recent graduate would say that a simple appendectomy should not give him trouble. The following case which had such an unexpected and tragic ending may be food for thought:

Mrs. K. C.—6877, age 20. 9-16-25. Operated on September 18, 1925. Preoperative diagnosis:

chronic appendicitis, retrodisplaced uterus, possible chronic cholecystitis.

Operation: Midline incision. Appendix brought into view, about four inches long. No adhesions. Meso very fat. There were several apparent constrictions, and the walls were gray. Appendix removed in the usual way. Ligation of the meso, clamp, pursestring, knife, inversion, after which the bowel was dropped back.

The patient was put in the Trendelburg position but before doing this the gallbladder was palpated. No adhesions around the gallbladder; it emptied easily, there were no stones. Right kidney was palpated, it was small, no stones could be palpated. Stomach—no adhesions. No evidence of pathology palpated.

Examination of the pelvis: Uterus was retrodisplaced, marked relaxation of all the structures on either side. Both ovaries showed small corpus luteum cysts, but there was no evidence of pathology. Tubes congested but apparently patulous. Not thickened.

A Long suspension was done and the abdomen closed in the usual way with tier sutures.

The operation presented no technical difficulties. Following operation there was a persistent tachycardia, febrile reaction (101.4). Nausea and vomiting.

Progress record:

9/20/25—9 A. M. Vomited frequently yesterday, brown fluid, everything she took nauseated her. At 10:30 a tube was passed and the stomach washed. Since then she has not vomited. Voided 18 oz. in 24 hours. Absorbed hypodermoclysis 3000 c.c. in 24 hours.

1 P. M. Vomiting greenish fluid containing some yellow substance, apparently bits of duodenal contents. Stomach washed with 5% bicarbonate solution. Patient apparently easier; less restless.

10 P. M. During the day she has vomited several times. Voided 18 oz. in 24 hours. Specimen show trace of albumin. Reaction alkaline. Few casts.

Blood taken for carbon dioxide combining power—chloride and sugar. Report, carbon dioxide 86, blood sugar 153. Chlorides 124 mg. per 100 c.c. Immediately we gave normal salt solution by hypodermoclysis; proctoclysis—glucose 2½% with 15 gms. of NaCl. Broth containing large quantities of salt. Saline solution given through Levin tube from time to time. Patient has been perfectly conscious. Answers questions readily. Takes nourishment when told. Pulse

varies from 110 to 130. Volume is better than earlier in the evening.

Blood examination—9/20/26:

Total white	21,800
Small lymphs	2
Large leukocytes	4
Neutrophiles	94

No nucleated plasmodia.

No red blood cell changes.

9/21/25—5:15 A. M. Pulse dropped from 130 to 60 during the night. Voided. Hypodermoclysis saline 1000 c.c. during night. Bowels acted, expelled large quantities of flatus and fluid given by protoclysis. Abdomen soft. No tenderness, no complaint. Mentally alert but not restless.

5:30 P. M. No nausea nor vomiting since 5 A. M. Retained cereals. Ice cream and orange juice, water. Voided 15 oz. since 7 A. M. Bowels acted well with flush. Hypodermoclysis saline 1400 c.c. Since 7 A. M. Blood chemistry:

Total non pro. nitrogen	39.9 mg. per 100 c.c.
Urea nitrogen	20.
Creatinine	1.87
Uric acid	3.32
Dextrose	153

Chlorides 389.6 mg per 100 c.c.

CO₂ combining power plasma 71.8 vol. %.

9/22/25—Temperature 103. Swelling in the parotid region, cervical and submental region noted this morning. Expecterating plugs of mucus. Negative findings in the chest. Urine 15 oz. passed. Vomited this afternoon.

9/23/25—This morning at 4 o'clock patient became more or less delirious; she could be awakened from these states, however, to talk rationally. Pulse rate 140; respiration 10; temperature 100.

11 A. M. Pulse 148; respiration 18, (breathing irregular). Pulse weak, irregular, there being a few strong beats followed by a series of shallow beats.

11:05 A. M. Patient gasping for breath, pulse still irregular.

11:10 A. M. Patient died.

The post anesthetic toxemias which were familiar pictures in the days of chloroform anesthesia are fortunately not common sequelae of the anesthetics in common use today. Many of the post anesthetic toxemias have been attributed to acidosis. Since the work of Hadden and Orr the importance to be attributed to high carbon

dioxide combining power and low blood chloride has been appreciated. Blood chemistry determinations alter immediately the indications for treatment in these cases. High carbon dioxide and low chloride content is associated with a picture which we have learned to know under the name of alkalosis and these findings indicate that sodium chloride should be pushed by all routes. The reverse low carbon dioxide indicates acidosis and therefore the therapeutic indication is to push alkalies.

Alkalosis according to Hadden and Orr is evidently closely related to the chloride metabolism. They believe that "it is probably an incident in the general intoxication." They further believe that if the phenomenon of the utilizing chlorides, during the process of protein destruction be correct it seems quite possible that the phenomenon may be a protective one. On this basis they state "The provision of a sufficient amount of chloride to keep the blood level may be effective in combating the intoxication."

Can we afford to ignore so valuable a diagnostic method?

Just as laboratory workers in all hospitals are able to provide us with Wassermanns and other diagnostic tests so should they provide physiological chemistry for our surgical needs. These tests are of value in the pre-operative preparation of the poor risk, and indicate the post-operative management.

The value of these tests in the diagnosis of intestinal obstruction can only be mentioned here; suffice is to say that all of our laboratory associates should be encouraged to co-operate with us in these determinations which provide so much valuable information.

* * *

A diagnostic measure too often neglected is spinal manometric reading. The spinal manometer as a means of diagnosis

and treatment for tumors of the brain, brain injuries and spinal lesions is not used to the extent it should be. The reason is hard to explain. By its use diagnosis can be made simply and fairly accurately before the damage is irreparable. It indicates that there is an increased pressure, leaving then the treatment clear—to relieve the pressure. In the past a head injury was submitted, often unnecessarily, to a decompression operation. Today unless there is a definite depression or evidence of an extra-dural hemorrhage repeated tapplings and the use of magnesium sulphate plus rest and ice bag offer the patient a much better chance for recovery.

The following cases illustrate the point in question:

Mr. F. C.—9371, age 24 years. (12-26-25.) Injury resulted from an automobile accident. When admitted he seemed mentally sluggish, not entirely unconscious. There were brush burns on the left forehead, and left cheek. Marked ecchymosis on upper and lower lid, right side. Some edema of both lids. Pupils—right larger than left, irregularity of the right pupil, some chemosis of the conjunctiva of the right eye. Right pupil doesn't react to light, left pupil reacts to light. (There is a sutured wound over the right eye just lateral to nasion. No edema of nose, evidence of bleeding from both nostrils. There is edema of upper lid and brush burns. Ecchymosis on both sides of median line. There is bleeding from the right lateral incisor alveolar cavity. No other evidence of injury to gums. No loss of alignment of other teeth. Contour of mandible normal. No ecchymotic areas about the scalp. On the right side of the midline 15 cm from the tip of the nasion there is a slight depression, the area is about 3 cm in diameter and extends backward to the right.

He moves both upper and lower extremities with apparent ease.

He can be slightly aroused, respiration is regular, not noisy.

X-ray report 12/26/25:

Structures at the region of the union of the frontal and parietal bones, in the vicinity of the fontanelle present the appearance of an unusually wide suture and in comparison with the width of the outer sutures in the skull, this is considered a separation of the suture line, or a fracture at the suture line. At no other point in the skull is there suggestion of fracture.

Progress record:

12/26/25—Blood pressure 130/90 at 12 noon. At 12:40 P. M. magnesium sulphate 1 oz. through Jytte tube.

5:45 P. M. Blood pressure 130/80. Perfectly conscious, answers questions without hesitation. Complains of headache but no nausea. Some evidence of cortical irritation as evidenced by occasional contraction. Pulse remains the same. Blood pressure practically unchanged. Spinal manometric reading was plus 27, 15 c.c. withdrawn dropping the pressure to plus 12.

9:00 P. M. Blood pressure 138/70. 11:00 P. M. Blood pressure 118/70.

12/28/25:

Operation at 8:30 A. M. as follows: Horseshoe-shaped incision with the middle of the convexity corresponding to the level of the palpable depression. (15 cm behind the nasion.) The skin was retracted downward, and the occipito frontalis muscle was cut in the opposite direction. The idea being that in the event it was necessary to remove a fragment of bone, by suturing these two in opposite directions would leave a double trap-door-like flap over the area from which the depressed fragment would be removed.

At this stage we noticed that there was a linear fracture, extending from the midline down into the zygomatic fossa. There was no evidence of depression. The serrated edges of the bone fragment were approximated, almost like a normal suture line. There was a slight bloody discharge between the bone edges, natural decompression. As there was no evidence of a depression, and there was no clinical evidence pointing to depression, other than the original palpable defect, we felt there was no indication to make a decompression. The pericranial tissues were sutured with deep dermol sutures.

6:00 P. M. No nausea since the operation. Lucid all day. Drinking freely. Bowels have acted well. Voided when bowels acted.

12/29/25—Conscious at all times. Pulse, respiration and temperature excellent. Less ecchymosis about right eye than before.

12/31/25—The right pupil does not react but less irregular in shape. Patient perfectly conscious and takes food well. Bowels acting well.

1/2/26—Read the paper and entertained visitors.

1/3/26—Taking interest in his surroundings. The wound healing very well.

1/4/26—The right eye and lid are much better. The sclera is not as congested. Has conversed during the day and seems to be free from pain.

1/7/26—The pupils were examined, the right pupil was more nearly circular than usual. There is some reaction to light of the right eye. The left eye reacts normally.

1/10/26—The eyes were examined, left reacting normally to light. The right pupil reacts to light better than it did yesterday. It is about the same in shape.

1/12/26—Patient was allowed to go home.

Comments: This case illustrates the general method of treating linear fractures of the skull. Attempts were made to reduce the intracranial pressure by spinal puncture. Spinal manometric reading at 1st tapping was 26. The fluid was clear, no evidence of blood. The pressure was reduced to 12. The second tapping was done two days later, this time reading was still 12 and therefore no spinal fluid was withdrawn.

Magnesium sulphate, 3 oz. quantity given by rectum every six hours and 1 oz. by mouth daily. Magnesium sulphate was resorted to in preference to sodium chloride, 30% solution, because magnesium sulphate is not dialyzable as is sodium chloride. The effect of sodium chloride, being proven by experiment, more transient, is undesirable, particularly in cases where rapid diminution of the intracranial pressure is not indicated.

No clinical evidence of depression existed but there was present on the vault about 15 cm. from the nasion a small but definite depression to the right of the midline. In spite of the fact that there was no clinical evidence pointing to depression I was afraid that since physical examination suggested this depression it would be wise to explore because of the possibility of Jacksonian epilepsy resulting from the depressed fracture acting as an irritant of the cortex.

SUMMARY.

Fractures of the skull without depression and without evidence of extra-dural hemorrhage do not need decompression.

Repeated tapping, magnesium sulphate, either by rectum or mouth, with absolute rest will usually suffice. Control spinal tappings by spinal manometer.

The value of intra-spinal readings is greatest in cases in which the real diagnosis has been overlooked originally, and where the patient is making progress towards permanent disability.

Miss C.—C-9486, age 23. 12-31-25. Old fracture of the skull. Automobile accident, October 22, 1925. Unconscious for one and one-half hours. No unconsciousness followed period of lucidity. Returned to teaching ten days after accident. Headaches have persisted from time of accident to present time. Numbness complained of on left side of face. No disturbance of vision of which patient is conscious. Unable to move neck with ease.

Examination: Pupils equal, react to light and accommodation. No injection of conjunctiva. Perfect muscle control. Pain over left zygoma and a palpable fullness. Pain over maxillary sinus. Pain on pressure over temporal bone.

Patient referred for examination of fundus. Report indicates that there is marked edema of papillae in both eyes. X-ray examination of the skull reports linear fracture of left temporal region.

Spinal tapping done. Manometric reading 26, fluid clear. Pressure reduced to 13. Specimen sent to laboratory for examination. No increased cell count. Headaches persisted. The edema of papilla seemed to increase. Three days later second spinal reading done, pressure was at that time 12, headaches persisted.

Frequent examinations indicated persistence of edema of the papillae. Because of the persistence of the headaches and edema of papillae also x-ray findings, it was deemed advisable to do a decompression. This was done January 8th. Left subtemporal decompression. Convalescence uneventful.

Patient left hospital January 18th, ten days after operation.

Since that time patient has not complained of headaches. Edema has subsided. Patient generally much better.

Observations: Injuries with persistent headaches should have a thorough examination to ascertain if the headaches are due to increased intracranial pressure. If so

relief of the intracranial pressure is indicated because of the permanent damage done to vision and the possibility of Jacksonian epilepsy.

Mr. R.—Age 46. Accident February 28, 1926. Slipped backward on truck and struck lower spine. Not immediately disabled but continued to work until March 2nd. He then consulted physician who strapped back and gave him a liniment. Ten days after accident his back was radiographed. The patient was advised to go to Touro, instead he consulted Fife Brothers (spinal masseurs). They have continued to treat him until three days ago.

Complaint: If he sits down for any length of time left leg gets stiff. He walks with difficulty on inclines and rough ground. He has "cramps" in back. No numbness nor tingling of the toes.

Physical examination: Extremities: *Left thigh and leg distinctly smaller than the right.* Below the knee the difference varies from $1\frac{1}{2}$ to $\frac{1}{2}$ cm. All muscles of the left leg much flabbier than right, front and back. Exaggerated patella reflex on left. Cremasteric normal.

Impression: Old fracture; spinal cord irritation.

Spinal manometric reading 28, spinal fluid examination: cell 1-2; Glob. negative; Wassermann negative; Colloidal Gold 0000000000.

Blood chemistry:

Non. pro. nitrogen	31.5
Urea nitrogen	15.7
Creatinine	1.3
Uric acid	3.8
Dextrose	105

Following this spinal puncture patient was relieved of pain. A few days later a second puncture was done. One below the injury and one above the level of the pain. Reading above 8 and below 15.

On September 16th patient was feeling too well to be inclined to submit to surgery.

An examination of the blood on August 20, 1926, gave a negative Wassermann reaction.

Can a surgeon have greater satisfaction than that which follows the use of some form of therapy which brings comfort and apparent restoration to health and usefulness to individuals who by former measures would, in all probability, have died? Can one have more pleasure than that

which follows making a diagnosis in an obscure case.

1522 Aline St.

THE LOW OR CERVICAL CESAREAN SECTION.*

HILLIARD E. MILLER, M. D.,

NEW ORLEANS.

Technically there is perhaps no simpler or more satisfactory operation than the high or classical Cesarean section, but it has a high morbidity, even in selected cases, and it is frankly unsuitable for cases in which a suspicion of infection is present. Theoretically the extraperitoneal operation is highly satisfactory, but practically it presents technical difficulties, the bladder and ureters are frequently injured, and because the peritoneum is torn in some 30 to 50 per cent of all cases, even in expert hands, it defeats its own purpose and carries with it almost as much risk for the patient who is potentially infected as does the old classical operation. The Porro Cesarean, of course, is adapted only to a very small percentage of cases and is frankly a procedure of despair. On the other hand, none of the objections urged against these operations can be advanced against the low or cervical Cesarean section, the laparotomectomy which DeLee in particular has done so much to popularize.

This type of operation, as we conceive it, was probably first performed by Oslander of Gottingen, in 1805, and although his case ended in disaster, it is important to note that it was his technique and not his obstetric judgment which was at fault. As DeLee says, success had to wait on more knowledge, antisepsis and asepsis had to come, pelvic anatomy had to be learned, anesthesia had to render deliberate operating possible, and surgical technique had to be developed. Once these requirements were met, as they were in the modern re-

*Read before the Orleans Parish Medical Society Meeting, Nov. 22, 1926.

vival of the operation, its results immediately proclaimed it worthy of our earnest consideration.

It has long been recognized that Cesarean section is not a procedure to be undertaken lightly. Even in selected cases the mortality runs to at least 2 per cent, and in the hands of the average operator it is above 10 per cent. Indeed, our local mortality runs considerably higher, 13 per cent at Touro Infirmary, and over 35 per cent at Charity Hospital. The loss of 2 cases on our own service, when every circumstance was favorable and operation had been done as an elective procedure for absolute indications, served to convince me that the classical operation had very grave defects, quite aside from its high morbidity and the fact that it frankly fails to meet the needs of what is possibly our greatest obstetric problem, the patient with an abnormal pelvis who has either been neglected or unwisely handled. For these reasons we began to do the low Cesarean operation, tentatively at first, then with increasing confidence, and although I have no intention of presenting to you as conclusive the 16 cases in which during the last 3 years we have used this method, they do seem to establish certain points very definitely, particularly as they are paralleled by similar results in much larger series.

To consider the technique briefly, any type of anesthesia is practical, although I have found a combination of gas and ether possibly the most satisfactory. The Trendelenburg position is always used, and a most important point is that the bladder must be thoroughly emptied, preferably by catheter. The operation may be done at any stage of labor, but the technical difficulties are less after contractions have occurred for some hours, and thorough retraction of the uterus has moved the vesico-uterine fold of peritoneum further up into the abdominal cavity. A midline incision is made between the pubis and the umbilicus, about 4 inches long, and after the peritoneum is opened, the vesico-uterine fold

is identified, and a transverse incision is made, more or less elliptical, with each end turning slightly upward towards the round ligament. This fold of peritoneum is very loosely attached to the lower segment and can be easily stripped up with the gloved hand; indeed—and this is a point I have never seen mentioned, much less emphasized, in any description of the technique—it strips up well beyond the point where it is supposed to be fixed on the uterus, and I have never found any difficulty in releasing it so that it could be either stitched or clamped to the parietal peritoneum. If after this is done there seems to be any tension on the approximated flaps, it is a wise plan to insert a U suture through the fascia and muscles of the abdomen, passing through a portion of the uterine musculature and out on the opposite side, to anchor the uterus in place. Bleeding is unlikely, but if the oozing should be troublesome, the veins in the bladder fold may be clamped and ligated separately. A longitudinal incision is made into the uterine musculature down to the membranes, about 4 inches long, and with the finger the membranes are separated from the uterine wall as widely as possible in all directions. Then through a small incision in the sac the suction tip is applied and as much fluid as possible is removed before the incision is enlarged. Forceps delivery is necessary in the majority of cases, because of the preponderance of occipital presentations, and it must always be done gently to avoid extension of the uterine incision and disturbance of the visceral peritoneal flaps. If extension has occurred and the delivery proves difficult, manual rotation may be done by putting two fingers in the mouth and rotating the face anteriorly, where it is held by an assistant until the forceps can be applied. The cord is not cut until pulsation has ceased, and the placenta is allowed to separate normally and to drop down into the lower segment before it is removed, the process being hastened by 1 c.c. of pituitrin given intramuscularly just as the uter-

ine incision is made. Closure of the uterine wound is done according to the usual technique, the first layer of sutures being continuous ones of chromic 2, involving the inner two-thirds of the musculature as far down as the endometrium, which is not included, while the second layer of sutures includes the remaining portion of the musculature. At this stage the pocket formed by the flaps of the peritoneum is thoroughly sponged out and the flaps are released and re-approximated in their original relation with a continuous suture of chromic 2. The abdomen is closed in tiers in the usual manner.

The technical advantages of this type of operation are obvious. In the first place, the peritoneal cavity is never exposed to the spill which is almost inevitable in the classical operation, as the cervical operation is truly extraperitoneal. In only 2 of the cases I am reporting was the peritoneum torn, these being the first done, and the accident was due to the fact that I had not yet grasped the trick of stripping it back sufficiently far towards the fundus. Hemorrhage is always less, since the incision in the lower segment is nearly always out of the way of the placenta, so that the field is not obscured by blood, as in the classical operation, and the usual tremendous blood loss of an incision through the placenta is entirely avoided.

Again, the chances of infection are less, not only, as I have pointed out, because the peritoneal cavity is not contaminated, but because the lymphatics of the lower uterine segment are less numerous than those of the upper segment, and because the placental sinuses with all their potentialities for harm are entirely out of the way. In addition, it is an established fact that infections of the lower pelvis have a tendency to remain localized and to be less severe than similar infections in the upper abdomen, a fact which is placed on a very logical foundation by the recent work of Hofbauer on the protective phagocytic process which occurs in the broad ligaments

during pregnancy. I see no basis for Brandt's contention that post-operative infections after the cervical operation are likely to be more severe because the incision is nearer the bacteria-bearing portion of the genital canal; certainly our experience in puerperal infections generally does not bear him out.

Most important of all, experience has shown that this type of operation offers a chance of abdominal delivery in cases where otherwise craniotomy would be necessary if the mother's life were to be duly considered. It has been proven in literally thousands of cases that the classical operation is a desperate chance when infection is present, and that its risk increases in proportion to the amount of cervical dilatation and the length of time the membranes have been ruptured. Large series of cases from all over the world, on the other hand, have proven that the cervical operation is peculiarly applicable to this type of case, which admittedly offers one of the gravest problems the obstetrician has to face. Baum reports 133 cases, nearly 40 per cent of them infected, with a maternal mortality of 1.5 per cent. Brindeau reports 88 with a mortality of just over 1 per cent. Hofmeir, Franz and Baisch have reported 194 cases, more than half of them infected, with a mortality of 1.5 per cent. In our own small series of 16, only 3 cases were frankly elective, and in one instance the patient was definitely infected from a 24-hour labor before admission, during which frequent examinations had been made and delivery several times attempted, yet our mortality was 0, as compared with 2 deaths in the last 16 classical operations, both of them in elective cases, from acute dilatation of the stomach, a contingency which no amount of obstetric judgment or surgical skill could have avoided.

The convalescence after the cervical operation is also smoother than after the classical operation. In spite of the fact that in our cervical series only 3 cases were frankly elective as compared with 10 in

the classical series, in the cervical group the temperature elevation was less acute and less prolonged, in no instance was the post-operative vomiting annoying—it usually amounted to little more than the emesis of undigested food immediately on awakening from the anesthetic—and in not a single instance was distention a feature.

As to the chance of rupture of the scar in the cervical operation, theoretically I would say that it is less. Because the wound is in the lower uterine segment and out of the active contractile area, the sutures are less likely to be disturbed, the chances of extravasation of the lochia are therefore less, the possibility of adhesions to the omentum and intestines is remote, and a stronger scar should undoubtedly result. The incidence of rupture after the classical operation is usually figured at about 4 per cent, although King has pointed out that is figured on the patients who are permitted to attempt natural delivery, which after all is the only real test, it rises to 18 per cent. Our figures for the cervical operation are not yet complete, but in the only set which I have at hand, Wetterwald's, the gross incidence of rupture for 3,600 operations performed in the leading clinics of the world was 10, less than .003 per cent, a result which I do not believe the figures for the classical operation could excel. I might add in this connection that the cervical operation is never suitable for cases of placenta previa, not only because of the immediate dangers, which are obvious, but also because the scar in such cases, as more than one writer has pointed out, becomes a *locus minoris resistentiae*.

I can see no basis whatsoever for the claim that the cervical Cesarean section endangers the life of the child. Admitting that the difficulties of extraction are slightly greater than they are in the classical operation, in no instance are they such as to threaten life, and I have never seen more difficulty in establishing respiration in these babies than in those delivered by any other type of abdominal section. In-

deed, because the head is delivered first, I should be inclined to say that the risk is less. All of the babies in both our series were born alive, and I might add that I have never seen a case in which I considered Cesarean section justified if it were known beforehand that the child was dead.

As to the objection that adhesions make a second operation of this type difficult and sometimes impossible I cannot speak from personal experience. In a series of 201 cases collected by Wetterwald, 11 were subsequently delivered by a second cervical operation without difficulty, and theoretically I can see no reason why the procedure should not be perfectly feasible. I have made it a point to examine carefully each of my patients at the end of 2 months, to note whether there was any degree of fixation from adhesions or disturbance of the mobility of the uterus, and as far as I could make out from bimanual examination, conditions were perfectly normal. One of the patients in the series is at present nearly at term and a second Cesarean will be necessary, so I am awaiting with interest the outcome of the case, as it will be my first opportunity to study at first hand conditions within the abdomen after this type of operation.*

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*Since this paper was written, the patient referred to in the last paragraph has been delivered at term by a second cervical Cesarean operation. The only adhesion noted was a single very thin attachment of the omentum to the abdominal wall just beneath the scar. The peritoneum did not strip back quite as readily as at the first laparotomy, but in the ordinary case this would have made small difference; in this case it rendered rather more difficult the extraction of the child, who was lying transversely and who was quite large. The convalescence was rather less smooth than is usual after this type of operation, but even at that the patient's condition never caused any anxiety, nor did her temperature ever go over 101. She was discharged twelve days after her delivery, and at the present writing is completely recovered.

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DISCUSSION.

Dr. E. L. King: The main thing I can say is simply to corroborate the statements of Dr. Miller. I have used the low Cesarean section in quite a number of cases at Charity Hospital, but cannot say definitely how many, employing it in the very type of case in which we learned by bitter experience not to use the classical operation.

As Dr. Miller mentioned, the mortality following the classical operation has been high. I collected the figures up to the beginning of 1921, in 1922, and out of 117 Cesarean sections there were forty-one maternal deaths, a very high percentage. Of these forty-one maternal deaths twenty-five died from the disease for which the operation was performed and the other sixteen from infection. In a series of 117 cases, sixteen deaths from infection is certainly entirely too high. Since then we have been cutting down on the percentage of Cesarean sections. I am working on those figures now, but am not prepared to say what they show, yet I know that we have been doing fewer classical Cesarean sections and have been restricting our indications. Cases that were infected, with the membranes ruptured, we have delivered the best way we could, vaginally, believing it was better for the baby to run the risk than the mother, and we have lost babies that might have been saved by low section. Since the low section has been developed I have performed it where the classical was contra-indicated and have in such cases lost neither mother nor baby; this is certainly a step in advance.

The question as to the technical difficulty of the operation is something to be considered. It is more difficult that the classical Cesarean—in fact, there is hardly any operation more easy than the classical Cesarean; one reason for its popularity—it is easy and spectacular. The low takes longer and is more difficult, but that is no excuse for resorting to the more dangerous method, no more than in any other form of surgery should we fall back on the easy when the difficult is indicated. Everyone doing operative obstetrics should familiarize himself with this type of low operation, and particularly with the indications. The classical is safe before labor has started, before infection, before membranes have ruptured. We should all know the indications and contraindications of the classical operation. We can stretch these indications for the low and use it where the classical

is not indicated. Men who handle these cases should be prepared to do this operation in a case of potential infection, where the membranes are ruptured, when labor has lasted for several hours, all of which make the high operation hazardous: in these cases the low operation is safe and we can succeed with it where the high operation would be entirely too dangerous for the mother.

Dr. F. M. Johns: Do you take definite precautions to prevent the dissemination of endometrial transplants into the wound?

Dr. Hilliard E. Miller (closing): In answer to Dr. Johns' question, we have no means of avoiding absolutely the endometrial transplants. Fortunately instances of transplants have been extremely rare. I can recall in the literature only three or four having been reported in the scar of the abdominal wall following Cesarean section. If the low Cesarean is done with the flaps properly attached and intact there is less likelihood, of course, of endometrial transplants inside the peritoneal cavity.

Time should not be a great factor in doing a Cesarean section. There is no actual hurry, and if pains are taken considerable blood can be saved the patient. The manual extraction of the placenta immediately after the cord is cut is not a good procedure. The edges of the incision in the uterine body may be clamped with hemorrhoidal clamps to compress the sinuses until such time as the 1 c.c. of pituitrin, which was previously given, has had time thoroughly to contract the uterus and separate the placenta. It then drops into the lower segment and can be lifted out.

In conclusion I would like to say that I advocate and urge that the low cervical Cesarean section be done preferably to the high classical type whether in elective cases or those where there is a suspicion of infection.

ETIOLOGY, DIAGNOSIS AND PATHOLOGY OF HODGKIN'S DISEASE.*

JOHN A. LANFORD, M. D.,

NEW ORLEANS.

In 1832 Hodgkin described a series of seven cases characterized by presenting in common a symptom complex, of widespread enlargement of the lymphnodes of the body, an increase in the size of the spleen and liver, anemia, cachexia and death. He

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called attention to a clinical syndrome rather than to a definite pathologic entity.

Virchow in 1845 divided the group into the leukemic and aleukemic varieties, when he described the leukemias and Kundrat in 1843 further separated the aleukemic subgroup by describing lympho-sarcoma. Wilks in 1856 collected 15 cases and perpetuated the name of Hodgkin's Disease to the clinical syndrome but it was left Sternberg in 1898 and Reed in 1902 to describe the histopathology of the condition which is now recognized as Hodgkin's Disease. During that interval, 1855-1898, many cases of this disease were reported under a variety of names, among them being lymphadenoma, malignant lymphoma, lymphogranulomatosis; malignant granuloma and pseudo-leukemia. This produced a great deal of confusion in the mind of the medical man.

There are great differences of opinion even today as to the nature of the pathologic process which Rolleston has grouped into four divisions.

1. An atypical form of tuberculosis.
2. A specific infectious granuloma.
3. A new growth or neoplasm.
4. A transition between a granuloma and a new growth.

ATYPICAL FORM OF TUBERCULOSIS.

A consideration of the clinical course of Hodgkin's Disease reveals many symptoms in common with glandular tuberculosis and the gross appearance of the removed glands also have points of similarity. Carl Sternberg considered the condition a special form of glandular tuberculosis just as lupus is a special form of tuberculosis of the skin and obtained evidence of tuberculosis in a large percentage of his cases. Inoculation experiments have given varying results sometimes positive, sometimes negative but it is probable that the positive results were due to a mixed infection and while this interpretation seems convincing, it has not been uni-

versally accepted. Frankel and Much using the antiformin method have demonstrated a granular form of bacilli in a number of glands of Hodgkins' Disease free from the structural changes characteristic of tuberculous adenitis which they believed to be tubercle bacilli but their work has not been generally accepted.

Another argument in favor of the tuberculous origin is that some of the cases of Hodgkin's Disease may terminate as generalized tuberculosis but this occurrence may be explained by the fact that the presence of Hodgkin's Disease favors tuberculous infections or activates it when latent. Further it is not the usual termination of Hodgkin's Disease.

SPECIFIC INFECTIOUS GRANULOMA.

Reed, Longcope and others agreed that Hodgkin's Disease is an infectious granuloma but denied that it was tuberculous. Various organisms have been described as being responsible for Hodgkin's Disease but none can be regarded as proven among them being a Protozoa, (Bramwell) and a spirochete by (Proescher and White): Delbet, Ebersson, Young, Billings and Rosenow have all described a bacillus but Bunting and Yates have been the most ardent champions of a gram positive pleomorphic diptheroid bacillus which they isolated from all their cases of Hodgkin's Disease and with which they claimed to be able to produce the early histological lesions in animals by inoculation: That they could isolate this organism from all cases was proven by many workers, among them the author, but the production of lesions in animals has not been confirmed.

NEW GROWTH OR NEOPLASM.

The view that Hodgkin's Disease is a neoplasm has many champions, among them being Gibbons, Clarke, Coley, Oliver, Mallory and Warthin. Mallory classes the condition as a lympho-blastoma of the slowly growing scirrhus variety. The type cell is a lymphoblast which occurs in some tumors as cells of large size, with large lobulated or multiple nuclei which arise

by mitosis. Sometimes the tumor cells arouse a marked reaction on the part of the fibroblasts so that the latter multiply exceedingly as they do in certain forms of carcinoma. This noticeable increase in the slowly-growing scirrhus type of lympho-blastoma. At the same time there is often an abundant infiltration with eosinophiles and plasma cells. The distinguishing feature is the presence of tumor cells, often in small numbers which are different from any cells found in chronic inflammatory processes. Against the neoplastic nature it is argued that it is not uncommon in Hodgkin's Disease for the lymph glands to become rapidly enlarged all over the body, while a tumor begins at one place.

TRANSITION BETWEEN GRANULOMA AND A NEW GROWTH.

The view advanced by Symmers that Hodgkin's Disease is a transition between an inflammatory formation and a neoplasm is due to the fact that it has characters of both processes. Levin also looks upon it as a borderline condition between inflammation and malignant tumors. It is differentiated by the fact that it is a system disease affecting the entire lymph-hemolytopoetic apparatus.

The great confusion which exists regarding the nature of Hodgkin's Disease is due largely to our ignorance of its etiology. There are however certain facts which we possess which are herewith presented.

Etiology: Hodgkin's Disease is distributed widely throughout the world, cases being reported from all countries and all climates.

Race does not appear to be a predisposing factor although the negro in the United States constitutes only a small proportion of the cases seen despite the fact that they show a high mortality to all forms of tuberculosis. Bunting reports the "Jewish race would seem to show a somewhat

heightened susceptibility." All authorities agree that the condition is more common in males and Desjardin in reporting 135 cases in the Mayo clinic found the disease 2.3 times more common in men.

It may occur at any age, Fabian reported a case in a 5½ months old child and Fazio reports a case in a patient 76 years of age. My experience coincides with Bunting's, who found that the third and fourth decades showed the greatest incidence of the disease.

Pre-existing local disease has been assigned as a predisposing factor by some authorities and others attach significance to a history of malaria, syphilis, pneumonia, etc., but satisfactory evidence has not been produced to prove that any of them can be considered as an etiologic factor.

Various writers have demonstrated in stained sections of Hodgkin's glands small bodies suggestive of protozoa, among them being Kofoid who claimed to have found amoeba. He attached an etiologic role to them, despite the fact that the patients were suffering with amoebic dysentery and the lesions in the lymphnode was not accompanied by the usual local reaction produced by the amoeba in other organs and tissues, viz., formation of pus.

The significance of bacteria in lymph-glands is not easily determined, but the mere presence of any particular type of micro-organism in a diseased tissue is not ipso facto proof that that organism is the cause of the disease. A number of different species of bacteria have been isolated from Hodgkin's glands and assigned an etiologic role but only two types have received serious attention, namely the tubercle bacillus and the group of diphtheroid organisms called bacillus Hodgkini.

That tuberculous infections are widespread is well known and it is not surprising to note that 20% of the cases of Hodgkin's Disease show tuberculous changes somewhere in the body, and in 10 to 20% of the cases tubercle bacilli are present in

the affected gland (Zeigler) producing the typical histologic changes characteristic of tuberculosis in addition to the picture of Hodgkin's Disease. The susceptibility of guinea pigs to tubercle infection has been used to separate the two conditions. A number of authors have been unable to produce tuberculosis in animals (guinea pigs) by injecting them with pure Hodgkin's glands (Reed, Longcope, etc.).

Further a consideration of all available data warrants the conclusion that while tuberculosis of the lymph glands and Hodgkin's Disease have certain characteristics in common and while tubercle bacilli are occasionally found in Hodgkin's glands it has not been proved that the tubercle bacillus is the essential etiologic factor in Hodgkin's Disease.

The part played by a group of pleomorphic organisms isolated from the glands of Hodgkin's Disease and given the name of B. Hodgkini by Bunting, was the subject of much study and investigation about 10 years ago. An etiologic role was claimed by some especially as the organism could be isolated from every case. Bunting and Yates reported the production of the histologic changes in lymph glands and a characteristic blood picture in white rats, rabbits and monkeys by the inoculation of pure cultures of the organisms. However their work was not confirmed and the finding of similar diphtheroid organisms in every form of pathologic lymph-adenatous structure by the author and other work has tended to cast doubt on the etiologic significance of the bacteria.

It is therefore evident that the identity of the existing cause of Hodgkin's Disease has not been proven and it is the author's opinion that no known bacterial or protozoal structure plays a part in the production of the disease.

DIAGNOSIS.

The diagnosis of Hodgkin's Disease cannot be positively made by a consideration of the clinical syndrome alone and depends

entirely on the histological picture. It is therefore necessary to excise an affected gland for study. Such a gland shows histologically a diffuse mass of cells of several types replacing and infiltrating the normal structures. These cells are partly inflammatory and reparative and partly neoplastic and vary in numbers in different parts of the same sections as well as in the stage of the disease. The characteristic cell is a large flat body with a pale staining cytoplasm, somewhat scanty in amount, having one or more large nuclei with well defined outline and a reticular network and one or two chromatin masses. These cells are commonly spoken of as Dorothy Reed cells. In addition there are endothelial cells, large and small lymphocytes, eosinophiles and neutrophiles, occasionally, and fibroblasts.

There are recognizable three stages of development of the lesions which can be demonstrable in different parts of the same lymphnode.

1. A simple hyperplasia of the lymphoid element—at this time it is impossible to determine the probable course or nature of the process.

2. The formation of a polymorpho-cellular granulation tissue composed of endothelial cells, mononuclear and multinuclear giant cells, fibroblasts, eosinophiles and occasional areas of necrosis.

3. Hyaline fibrous induration with the result that at times it is impossible to recognize the true nature of the condition.

The characteristic cell is a giant tumor cell which can be easily distinguished from the Langhans type of giant cell seen in tuberculosis. Both types of giant cell may be seen in the same lymphnode. The number of these cells varies in different glands and different areas of the same gland. They occur singly or in groups and in the late stage of the disease these cells may be seen lying in clefts in the dense fibrous tissue. The origin of these cells is attributed by Reed, to endothelium, by Symmers to the

bone marrow and by Mallory to the lymph-ablast. In view of the most important facts in the disease it is most probable that Mallory is correct.

PATHOLOGY.

Hodgkin's Disease is primarily an affection of the lymphatic glands usually beginning in one group and ultimately involving most of the other lymphadenomatous structures of the body. According to most authorities the cervical glands are most frequently involved.

It is an interesting fact that the lymph glands of the abdomen, thorax, neck axilla and groins and the axillary systems of the lymphoid tissues including the spleen and liver bear the brunt of attack while the lymph follicles of the intestines and urinary system nearly always escape.

The extension of the disease from the primary focus is by way of the lymph stream to the next group of glands in the course of the flow of lymph. It is probable that the blood stream plays but little part in the dissemination of the condition.

In most cases the glands are discrete and not adherent to each other or to the overlying skin but occasionally the capsules become infiltrated and the surrounding structures involved by the new growth. The most extensively massive forms occur in the mediastinum and retro-peritoneum.

The spleen is involved in a large per cent of the cases and occasionally may be considered the primary site of the condition.

The liver is frequently involved, resulting especially in enlargement and jaundice. The gastro-intestinal tract may be affected. The lesions which occasionally occur in the lungs are true tumor metastasis.

Anemia is a constant feature, is of secondary type and usually of gradual progress. The white cells vary in number and percentage and cannot be relied upon as a constant diagnostic point.

Death always occurs.

SUMMARY.

Hodgkin's Disease is a known clinical and generally accepted pathologic entity whose excitant is unknown, but whose course and universal fatal termination warrants the opinion that it is neoplastic in nature.

DISCUSSION.

Dr. W. D. Haggard (Nashville, Tenn.): I think this is a very interesting topic and I, personally, have been much profited by the presentation of such a paper. It does not, of course, take us into the realms of treatment and unfortunately our treatment has been most unsatisfactory. This is one disease in which I think we have been more handicapped than in any other. We are familiar, of course, with the work of Yates, who has made very widespread sections of the gland and followed it by intensive radiation. That has in some instances presumably effected a cure. The question comes up as it does in pernicious anemia, Was it the real thing?

The next idea, in the management of this disease, the effort of palliation would be about all one could hope for, and coming back again to the diagnosis, I believe the essayist was correct when he was able to differentiate from the common types of adenopathy. I believe our errors have consisted largely in thinking of the more frequent types of tuberculosis and the adenopathy of syphilis. If one, however, will be on one's guard and hesitate before removing a single group of glands of undetermined origin and follow the precept of one of the speakers in the tuberculosis question and give a little time, he will often be, unfortunately rewarded as far as the diagnosis is concerned, by seeing multiple glandular enlargements that will at least verify the diagnosis.

Dr. D. O. Willis (Leesville): Mr. Chairman and Gentlemen: This subject I might say is of unusual interest to me because of the fact that in 1914, the early part of the year, a diagnosis of Hodgkin's disease was made in my own son. Of course, now, the scientific man will question that diagnosis because of the result obtained but I hardly think we are justified in questioning the diagnosis.

Dr. Ellis of Shreveport first made the diagnosis of a typical Hodgkin's picture from a gland removed from the right groin. About a month or six weeks later, Dr. Wade of New Orleans, taking a gland from the left axilla, made the same diagnosis. His diagnosis was concurred in by Dr. Bass and Dr. J. B. Elliot, Jr., of New Orleans, after careful study of the case from every angle—

tuberculosis and every other condition, that might be connected with such a condition.

I then took him to Chicago and Drs. Billings and Rosenow concurred in the diagnosis after a study of the case. Then I went to Milwaukee and Drs. Yates of Milwaukee and Bunting of Madison concurred in the diagnosis after a thorough study of the blood and the case in general from every standpoint, and Dr. Yates began the treatment of the case in the summer of 1914. As Dr. Haggard has just mentioned radical removal of glands from the various sections where they were infected, was done and radiation almost to the extreme, and the use of a serum.

Dr. Yates at that time was looking on Hodgkin's disease as probably being due to a diphtheroid bacillus, and he was using immunized horse serum. He was looking on five different strains of the diphtheroid bacillus as being responsible for the five different types of the disease he was classifying at that time.

I was there about four and one-half months with them, in the summer and fall of 1914, and I saw a large number of cases. Many of them had been under their care and treatment for as long as seven and eight years and appeared to be well. They treated my son and I returned with him for two years, at six months intervals, and some treatment was given after that, especially radiation and one bunch of glands removed after the first year.

On April 1st in 1916 he was pronounced to be normal in every way, blood picture and everything, excepting for the extreme loss of tissue that he had suffered, and I am glad to tell you that today he is perfectly normal so far as we are able to determine. We are having him watched, of course, carefully with the dread of what may happen in the future, but he is perfectly normal so far.

Dr. Grant E. Ward (Baltimore, Md.): We have had about 200 cases of Hodgkin's disease at the Kelly Hospital in the last twelve or fourteen years and Dr. C. F. Burnam is reporting these cases in Dallas next week. I am glad to confirm what Dr. Willis said regarding cures in Hodgkin's disease and to add that we have some cases that are well after seven to eleven years. I don't agree with what has been said about this disease being incurable.

Our treatments consist chiefly of radium, although we have used deep therapy x-ray in some cases. We feel that radiation with gamma-ray of radium is preferable.

The percentage of five years cures is small but we do have, considering the number of cases, a very appreciable percentage; in all types combined an average of 17%.

Dr. Lanford (in closing): I wish to thank the men who discussed the paper for their consideration. I have very little further to add. I think that the point brought out by Dr. Haggard that time is very important and will frequently make the diagnosis for us if a gland is not removed is a good one, as it is not always necessary to remove a lymphnode for the conclusion that the condition is one of Hodgkin's disease, although the histological study is our only means of making a positive diagnosis.

The point that I made with reference to the general end of these cases of Hodgkin's disease, that is death, is based entirely on the fact that I consider it a true neoplastic condition, and just as we look upon cancer and sarcoma as resulting fatally in practically 100 per cent of the cases, so we feel that Hodgkin's disease is in the same group. Of course, certain cases may possibly be cured or their lives lengthened by proper treatment whether the treatment is surgical, medical or physical.

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A NEW "NEW" IN NEW ORLEANS*

MERLE THORPE

Editor, Nation's Business

Still as French as the savory dish of *bouillabaisse*, still as Spanish as a flower-decked patio, the proud old town of New Orleans is now putting heart and soul into a major course in commercial and industrial Americanization. In the shimmering crescent of the great river is rising a new city, a city packed with marvels a-plenty to applaud the ancient wisdom of Indian settlers who named the original site, Tchoutchouma, "the place of the sun." On view every day to charm the traveler's eye is a spectacle of transformation as magical as any Mardi Gras pageantry ever paraded from the fairy realms of Rex, Comus, Momus or Proteus. Always the charming and vivacious "mistress of the Mississippi," this renascent New Orleans is setting a style for American cities. And nowhere has a reasoned progressivism found a more fascinating trimming of romantic antiquity.

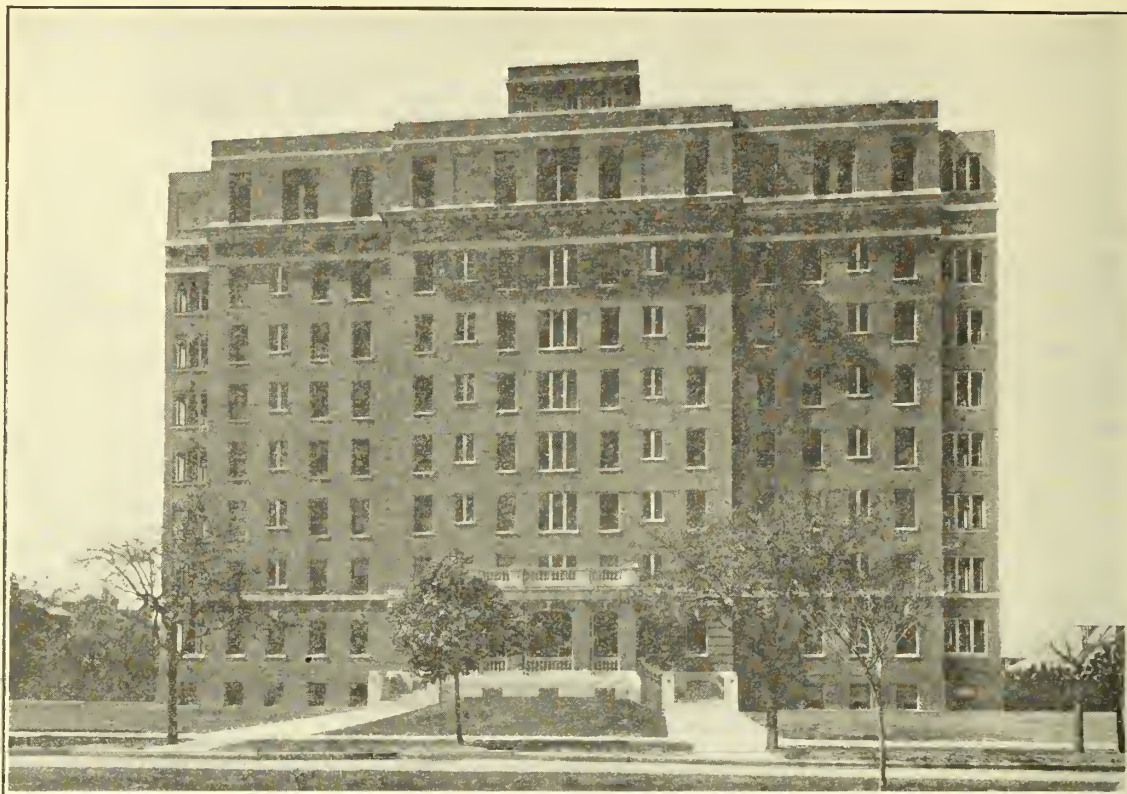
Long famed as a dispenser of "cotton, cane and cocktails," the new New Orleans has expanded that celebrated trinity of commerce to nine hundred products, the output of a thousand mills and factories. In the streets, in stores, in offices, in clubs, on the docks—everywhere—a buoyant civic spirit is weaving its spell of enterprise. In this tremendous glorification of faith with works, the city has put its water-borne commerce into second place by the enormity of its tonnage; it has increased its bank resources to \$330,509,000; it has raised the total of its building and loan resources to \$86,520,000; it has pushed up the total value of its manufactures to \$400,000,000 a year; it has undertaken de-

velopments, improvements, and municipal projects, estimated to cost \$250,000,000.

Whatever the significance of the decadent cocktail, there is no mistaking that the city thrives on water. From the days of Bienville river men and saltwater sailors have given color and character to life in New Orleans. The oyster luggers still ply their ancient trade, quaint craft still churn the placid waters of the bayous, and boats there are to vitalize the tradition of the *Natchez* and the *Robert E. Lee*, but into the picture have also come huge steamers with foreign flags, and squat tow boats with freighted fleets of ponderous barges. For nearly fifteen miles the harbor works fringe the broad arc of the Mississippi, from Westwego and Southport on the northwest, to Chalmette, five miles below Canal street. Connecting the inner harbor and Lake Pontchartrain, on the north, is the twenty-million-dollar ship canal. Southward, one hundred and ten miles, lies the Gulf.

With increasing use of this convenient layout of waterways a few steps from capacious warehouses, New Orleans has become a livelier distributor and forwarder of goods to and from the prosperous trade empires tributary to the vast Mississippi basin. On her wharves are piled the varied products of fertile western plains, and of prolific eastern and southern workshops. From abroad, last year, she received about 4,800,000 tons of commodities, and to the world she sent 3,800,000 tons of goods. By value, the first ten imports in the order of magnitude were: coffee, cane sugar, burlap, sisal fiber, crude petroleum, bananas, gasoline and naphtha, molasses, sodium nitrate, and creosote oil. Among

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SOUTHERN BAPTIST HOSPITAL, NEW ORLEANS.

the exports, by value, the first ten were: raw cotton, gasoline and naphtha, wheat, leaf tobacco, wheat flour, lard, kerosene, yellow pine boards, corn, and gas and fuel oil. Rated by tonnage, petroleum got first place in imports and in exports. Sugar and molasses, together, stood second, and bananas third in imports, and wheat and lumber second and third in exports. Cargo manifests of freighters bound for the Spanish Main are itemized reminders that New Orleans is "the grocery store of the Caribbean."

With the United Kingdom and continental Europe, exports, chiefly petroleum, cotton and grain, have been predominant. But with the West Indies, Mexico, and the east and west coasts of South America, imports have outdone export cargo because of the hold-filling import orders of raw sugar and molasses from Cuba, oil from Mexico, bananas from Central America, coffee from Brazil, and nitrates from Chile.

In expanding the business of any part good transportation is decisive. One answer to New Orleans' forward surge is that she has it. She wanted it and her business men went out and got it. Ten trunk line railroads and ninety steamship lines are at her service. Their terminals are linked with a public railway. On the loop of this line cars are shunted to rail or steamship sheds for loading or unloading. That belt line is the tie that binds the throbbing circulatory system of the busy port.

Of the port and its possibilities, the United States Board of Engineers for Rivers and Harbors says:

"The port of New Orleans is rendering valuable service in facilitating the foreign and domestic trade of the nation. It is well situated to become of ever increasing value as the interior of the country becomes more densely settled, and as the consuming and producing ability of its



TOURO INFIRMARY, NEW ORLEANS

enormous hinterland increases correspondingly. The progressive attitude of the Board of Harbor Commissioners and of the local commercial interests gives splendid assurance that New Orleans will be found prepared at all times to meet the demands which the requirements of American trade may impose upon it."

Rail freight handled at New Orleans has climbed to the eye-filling total of more than half a million carloads a year—about three-fifths incoming, and about two-fifths outgoing. In rail freight received, grain and grain products, logs and lumber, mineral oils, cotton, coal, coke and charcoal, sand and gravel stand up highest. In rail freight forwarded, bananas, sugar, syrup and molasses, mineral oils, coffee, automobiles and parts, and lumber would make the biggest heaps.

From acetylene gas to yeast is the broad range of local products—in volume and variety enough to gladden the heart of any freight agent. Over the radio New Orleans has told the world about "the world's largest single unit sugar refinery; the world's greatest cane-syrup canning plant,

and the only mill turning sugar-cane waste into insulating lumber at the rate of one million feet a day"—and of "rice mills, oil refineries, summer clothing factories making 80 per cent of the wash suits worn by American men, and other industries of infinite variety."

NEW INDUSTRIAL HARBOR.

In substantial evidence of the new impetus to manufacturing and merchandising stands the pretentious industrial harbor development, now offering industry and commerce leased or privately-owned sites and facilities on a siltless, currentless harbor. Distinctive, too, is the International Permanent Trade Exhibition, housed, rent free, in the Army Base building. Established as a permanent display of raw and fabricated products, this non-profit, co-operative exhibition was encouraged by the United States government, banking, industrial and trade organizations, the State of Louisiana, and the city government.

Inspired development is the order of the day in this lusty rejuvenation of the old river town—a sight to put a seal of reason on DeSoto's belief that the river contained



JOHN DIBERT MEMORIAL, HOTEL DIEU, NEW ORLEANS

the essence of youth. So sudden have been the intimations of this new vigor that citizens share astonishment with visitors. Before their wondering gaze is spread a modern metropolis with its paint and plaster hardly dry for skyscrapers, hotels, apartments, and other new building ventures have quickly taken firm root in this friendly soil and now pillar a skyline that induces exclamation and stiff neck.

Belated discovery that a Southern exposure in the South is no more sultry than in the north assured the building of apartment houses, even age-mellowed mansions have been converted into apartments or razed to make place for hotels. It may be that the South is developing a servant problem, but the trend toward apartments seems only an expected attribute of urban life.

For this New Orleans two new bridges over the Mississippi, and one across Lake Pontchartrain, are planned. On these long spans to compress distance to the north, east and west, \$25,000,000 will be spent. On the Lake side, a five-mile, mosquito-plagued strip is being reclaimed to make an inviting beach and residence section.

This bit of municipal magic, which adds another beauty spot to the city, will be performed at an estimated cost of \$27,000,000.

MOTORS MADE GOOD ROADS.

In these improvements the motor car is an accelerating factor. New concrete and gravel roads are open to all parts of the north and east—a direct run from New Orleans to Winnipeg, a distance of 2,400 miles, can now be made in a little more than a week. Bad roads and detours have had their day in much of the South.

For magnets to populate all the new construction there is a fascinating wealth—the sprightly institution of Mardi Gras, the rich stakes of the winter race meet, the primitive allure of rod and gun, the lordly sport of yachting on the Lake, the captivating stretch of coast from New Orleans to Mobile—"the Riviera of America"—with its pleasant resorts of Waveland, Bay St. Louis, Pass Christian, Mississippi City, Long Beach, Ocean Springs, Gulfport, Biloxi, Scranton, Pascagoula, bright spots to garland any holiday for luxurious loafing. But underneath the gay froth of amusement for the care-free visitor is the sound

structure of the city's industrial life, giving the steady employment that establishes homes and helps business to keep on keeping on.

It would have been pretty easy for New Orleans to have been a weed—and the fact that she's flowering attests the vision and sound judgment of the men who have raised her. In this cultivation her business men have been prompt to lend a useful hand. Working through the Association of Commerce they have helped to train the city in the way it should grow. The seeker after New Orleans truth will find the record of their public service in the creation of a city planning and zoning commission, in the well-paved streets, in the bright lights that shine on Canal and St. Charles Streets, in the Jefferson Highway from New Orleans to Winnipeg, in the clearing-house for local charities, in the saving of a \$300,000 gift to the city for a tuberculosis hospital, in the restored steamboat service on the Red and the Ouachita Rivers, in the morning glory vines that cling to telephone poles—in things for the good of the order.

So the city works and plays, a great book of life, divided into two parts by the bustling thoroughfare of Canal Street—a sort of Old Testament on the north, a sort of New Testament on the south.

On the "downtown" side is the Vieux Carre, the French Quarter. There Creole customs endure. There balconies overhang narrow streets, and French is still spoken. There are the weathered landmarks to give romantic substance to the deeds of Jackson, of Lafitte, and of O'Reilly. And though "many of the foremost families of France brought with them thousands of articles of art, vertu, and embellishment of the nobles and their followers," there is "no factory making New Orleans antiques."

A NEW CITY SPRINGING UP.

On the "uptown" side is the new city, growing with dynamic pace and push—too purposeful and restive to sit for its portrait.

New Orleans is all things to all men. She provides a spicy seasoning according to taste.

Perhaps it is all because of the *gumbo Nouvelle Orleans*, or the Association of Commerce, or the galvanic civic spirit, or the warm southern hospitality, or the balmy climate, or the old habit of giving *lagniappe* to customers, or a combination of all these pleasant solvents of perplexing problems—but whatever the ingredients or their proportions in her success, New Orleans has contrived to find a place in the sun.



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As long as all that is said is said against me, I feel a certain sublime assurance of success, but as soon as honored words of praise are spoken of me, I feel as one that lies unprotected before his enemies.

—Emerson.

TRAFFIC SIGNALS.

RED LIGHTS—STOP. GREEN LIGHTS—GO.

Progress and the necessity for rapid advance have forced traffic signals upon us. What chaos and disaster would follow the failure to observe the red and green lights?

Every doctor has a window in his office, facing the intersection of Medicine and Progress Streets. Daily and I may add, all through the night, the traffic is kept busily moving in each direction. Old Daily

Grind, the officer in charge of the traffic signal, is preparing for his week's vacation, which starts this year on April 25th.

Annually at this time, Daily Grind feels the urge of Spring; the chirp of the cricket, the song of the birds, the smile of the young, make work impossible. Duty becomes a task. He scratches his head, yawns and wonders what it's all about—when lo! presto! he sees his relief officer coming up the street to blow the whistle and swing the lantern. With a gay and light-hearted swagger, the young and smiling Officer State Convention advances.

Officer State Convention, who makes the traffic hum. Spirited, full of life, smiling and pleasant, he swings his lights and blows his whistle to go. A green light, up Progress Street whizzes the traffic. No laggards now. Everybody shoots along at top speed. But no! there is one laggard who stays behind. Hey! you, don't you see the Green light? Come, move along. Speed it up, or you'll be put in the jail of Stagnation, where you'll never get out.

Officer State Convention turns to old Daily Grind, pausing with his hand extended over the light switch, "Sure enough, Grind, old man, these fellows that delay the traffic are getting to be fewer and fewer. Why, I can remember a few years back when the Stagnation cells used to bulge out. Now it's mighty few that'll not have their engines racing when I stretch my arm."

"Sure," said old Daily Grind, adjusting his cap, "and why shouldn't they? You've got the best of the beat; you're only on for a few days and you've got what they want. I'm an old institution; I am here all the time; the boys all know me, that's what makes them careless."

Officer State Convention waved his white-gloved hand to the President of the Medical Society, who whizzed by: "It's

boys like that who keep the traffic moving on Progress Street. That lad and his crowd do more to keep the cells of Stagnation empty than all the cops. Those boys are sure enough drivers. No congestion on the trial behind them. They keep Progress Street open for traffic from Medicine Street to Success Avenue."

Old Daily Grind, dusting some of the accumulation of time from his chest, with the back of his hand, pushed his cap back and started slowly away. Hesitating, he let fly a final rebuff to Officer State Convention, "Well, you'll only have them for a week anyhow. After a week, I'll be swinging them along again. Sure, they're only human after all."

DR. HUNNER.

The recent honor conferred upon Dr. Guy L. Hunner, of Baltimore, in electing him president of the Southern Surgical Association, at the annual meeting of that body in Biloxi, is a most fitting tribute to one who has advanced gynecological urology to the dignified plane it now occupies. Further, his election records the recognition Dr. Hunner so justly deserves for his having brought to our attention the importance of searching for ureteral stricture in all cases of obscure abdominal pain. Only one with a tenacity of purpose, such as he possessed, could have weathered the years of ridicule he has so patiently endured in order that the profession he loved might ultimately see the light.

It is not however alone to the discovery of ureteral stricture that we are indebted to Dr. Hunner. Years ago he described a new type of bladder ulcer found in the vesical vertex, which has been given his name. The Association is to be congratulated upon their choice in the selection of their new president and we of the South rejoice that such signal honor has been paid him.

OUR "HEROIN RESOLUTION."

The caption to this editorial is apt. It will be remembered that the House of Delegates of the Louisiana State Medical Society unanimously passed the resolution calling upon Congress to repeal the act which proscribed heroin and eliminated it from our therapeutic armamentarium; said resolution was then unanimously endorsed by the whole society, in adopting the report of the House of Delegates on the last day of the Monroe meeting; therefore, as far as the Louisiana Society is concerned, it is *our resolution*.

The main reason for this action is, as stated in the preamble of the resolution, that we believe that Congress acted too hastily in depriving us of such a valuable drug (for which we have no substitute) in medical and surgical practice; this action was taken in face of the fact that no less an authority than Dr. Carleton Simon admits that the narcotic evil is 98% a police problem and only 2% medical; clearly, then, physicians and surgeons are being deprived of this valuable aid in order to protect 2% heroin addicts from their vices, whereas the 98% will continue to get their supply unless prevented by other means. But, behind all this, there is a far greater reason for pressing this matter; it is the evil of centralized government, the overriding of local and state authorities by the national body, in the role of regulators of our morals, but in this instance, impinging upon the usual method of practicing medicine according to the dictates of reason and judgment and substituting therefor a system of practicing by law—indeed, the time may come when those intending to practice medicine will be sent to a law school to learn all the limitations and regulations rather than to a medical college! But, seriously, if Congress listening as it does to the radical reformers, sees fit to proscribe heroin, because a relatively high percentage of heroin-addicts were found in the East, who knows but what, next time, they might step a little further and

exclude morphine from our supply of drugs, because someone may find a relatively high percentage of morphine addicts in the West!

We must fight for our rights. Unfortunately, the medical profession cannot present a united front on the liquor problem, as it is hopelessly (and conscientiously) divided on that subject, but, when the national legislature begins to eliminate our valuable drugs, it is high time that the doctors of the entire country assert themselves; and they should assert themselves, for the principle of the thing, whether or not they agree with us in this specific instance. Accordingly, we have appealed to every other state society in the country to join with us, by protesting to their respective senators and congressmen; in addition, the Louisiana delegates to the American Medical Association will introduce a resolution along similar lines and we hope and believe that it will have the active support of every red-blooded American.

"Eternal vigilance is the price of Liberty." Time will tell whether we shall go forward or backward.

OUR PHYSICIANS' HOME FUND.

Almost every medical man, and particularly those of us who are specialists, are called upon at various time to render professional service to other doctors. True to the traditions of our profession we neither expect nor ask a fee for such service yet there are many who, in their gratitude, would willingly pay one if such were the custom. Many others would feel less as if they were imposing upon a fellow physician's good nature if they were permitted to pay a fee.

Of course, the ethics of our profession preclude charging for professional courtesy but it has occurred to me that the desire to show appreciation and gratitude might be satisfied and a very worthy cause aided by the following procedure.

Let the consultant, surgeon or specialist say to his patient, "Doctor, if you were a layman my fee would be so much. As a medical brother I neither ask nor expect a fee but I want you to write a check for half that amount and make it payable to the Physicians' Home. I shall forward it to them with your compliments."

Such a plan would furnish a ready avenue for the expression of the gratitude that every patient feels toward his medical friend in need.

PREVENTION IN THE DOCTOR'S PILL BAG.

In the January issue of the Journal of the American Medical Association there is published a letter to the editor entitled "The Right to Prevention of Infectious Disease," from Dr. Abraham Zingher of New York, to whom the world owes so much for the means we now possess for active immunization against diphtheria.

Dr. Zingher in his letter cites a case of a 3 year old child to whom he was called in consultation with the family physician who had delivered the child and looked after it during its entire life history. The child was in the moribund stage of nasopharyngeal diphtheria, although it had received two days previously an insufficient dose of diphtheria antitoxin. Pointing out to the family physician that a fatal dose of diphtheria toxin may easily be absorbed from the nasopharyngeal fossa before the physician may become aware of the infection, he asked the doctor why he had allowed three years to elapse without placing upon the parents the responsibility of deciding whether or not the child should be immunized. The answer was the familiar refrain, that he was too busy treating sick people. In many instances, of course, as in the present, the treatment of the sick is of no avail, whereas a little attention to prevention means life to the patient.

As a result of this and many other similar every day experiences, Dr. Zingher states the following conclusions:

"1. The physician has a definite moral and professional responsibility to let his patients and their parents know the accepted facts in preventive medicine and hygiene, so that the patients shall decide and be personally responsible for preventable sickness and death in their own families.

2. The patients have a definite right to expect that their physicians shall let them know these facts on which they themselves will have the choice of decision.

3. It will pay general practitioners and pediatricians financially to carry out such immunizations against different preventable infectious diseases that can be eradicated by proper prophylactic injections. Concentrating this type of work within a designated period of one hour each week, the physician will not only greatly benefit his patients, but will receive a full measure of compensation for his professional efforts during that hour.

4. It is the duty of the department of health or of the health officer of a community to create by suitable publicity the proper demand for prophylactic measures against the various preventable infectious diseases, for which well recognized immunologic procedures have been established through research and clinical experience. The health officer must aid the physician in his efforts, as the latter cannot be expected to urge too strongly professional services on his patients for which he receives financial remuneration.

This is the most effective way in which our preschool child population can be reached—through the general practitioner, whom the family has known for years, and in whom the individual members have confidence."

The medical practitioners must keep abreast with such phases of preventive

medicine as they are able to apply among their patients, as herein lies their greatest reward in life saving. Wherein the problem reaches beyond their own limitations, they should lead community sentiment to demand the establishment of adequate full-time public health service to take care of the pressing needs of preventive medicine.

Certain preventive measures, such as immunization against smallpox, typhoid, and diphtheria, have become as firmly established for the prevention of these diseases as has quinine in the curative treatment of malaria. The practitioner must begin to interest his clientele in the universal adoption of these measures. They must become a part of his "tool kit," the same as quinine.

CORRESPONDENCE.

February 25, 1927.

To the Editor:

The Chairman of the U. S. Pharmacopoeia Revision Committee has asked the Sub-committee on Therapeutics and Pharmacodynamics to address to you a statement explaining the purpose of the presentation of the volume of the Tenth Revision of the United States Pharmacopoeia, which was forwarded to you a few days ago. This object is partly to make it convenient for you to familiarize yourself with the rather important changes, the additions, deletions, and modifications of titles, that have been made in this revision. The chief object, however, is to enlist your assistance, and to give you some help, in bringing the ideals of the Pharmacopoeia to the attention of your students; to acquaint them, through you, with the existence of this work and with the objects that it represents; to point out how these aims serve and deserve their professional interest; and to make them somewhat familiar with the book as a reference work of authoritative information. It is especially important that medical students should have convenient access to the copy of the Pharmacopoeia as a reference book, since it is not intended as a medical text-book.

As you know, the immediate purpose of the Pharmacopoeia consists in providing standards for the standard drugs, and in this it may be truthfully said to reflect the best practice of the American medical and pharmaceutical professions. By giving official recognition, sanction and en-

encouragement to the best, it serves as a powerful incentive and means for improvement and progress of the two professions who own it in common, and who manage it by a democratic system that should and does make the Pharmacopoeia representative of, and responsive to, the whole membership of both professions. Indeed, one of the objects of this presentation is to keep up interest in this popular control, so that the students, who will be practitioners by the time of the next Pharmacopoeial Convention, will help to elect and send competent representatives.

The last Committee of Revision took the wise step of dividing the work and responsibility of the revision fairly definitely between the two professions, according to their special training. The selection of the "best" drugs and preparations, the assignment of their dosage, the elaboration of bio-assays, and other matters requiring medical knowledge were left essentially to the physicians of the Revision Committee; while the pharmacists, chemists and botanists were charged with the working formulas, tests, etc. This division increased the general efficiency and worked out very happily.

The selection of the "best" in drugs is necessarily a delicate undertaking; but the Committee tried faithfully to act in harmony with the tendencies of modern medicine; to eliminate what seemed at present useless or practically superfluous; and to add the new drugs whose value had been fairly definitely established. That was made possible by the authorization to admit drugs protected by patent, as is the case with so many of the synthetic chemicals. Accordingly, the present Pharmacopoeia was able to include standards, and incidentally non-copyrighted names, for the arsphenamines; procaine (novocaine) and other synthetic anesthetics; chaulmoogra oil and ethyl chaulmoograte; amidopyrine (pyramidon); the colloidal silver preparations, mild and strong; barbital (veronal) and phenobarbital (luminal); calcium iodobenzenate (sajodin); carbromal (adalin); chloramine (chlora-zene) and dichloramine; epinephrine (adrenalin); thyroxin, and a number of others. To an increasing extent, teachers and students may find it profitable to look upon the titles of the Pharmacopoeia as a basic reference list of drugs and preparations of worth; but even those who may

not agree with the Committee in all its decisions will find the list of additions and deletions at least quite interesting. Incidentally, strict adherence to the official names and abbreviations helps to avoid confusion in prescribing and in dispensing. A list of preparations is given under each drug, as also the ordinary dose, in both metric and apothecaries system.

The bulk of the text of the Pharmacopoeia consists of working directions for preparations and for testing, which are very important to pharmacists and indirectly also to physicians, since they insure uniformly high quality of the drugs; but the details of much of this text are not in the province of medical men. There are, however, quite a number of other valuable features, which make the Pharmacopoeia a very handy source of useful information. These are best appreciated by examining the Table of Contents, on pages III and IV of the book, or, better still, by running through its pages. We would mention especially the authoritative definitions and descriptions; the physical constants, such as solubilities, melting points, etc.; the admirable succinct "Identification Tests for Chemicals," pp. 440-444; the descriptions of standard analytical procedures and methods; the formulas for test solutions and volumetric solutions and equivalents; the tables of formulas and molecular weights of a large list of chemicals; of equivalents of temperatures, of weights, and of measures—all in convenient form and reliable. The descriptions of the bio-assays are of especial interest to pharmacologists. It is interesting to recall that the United States Pharmacopoeia has set the pace for the world in this subject.

Our Sub-committee ventures to suggest that you take occasion to point out to your students the value of our national Pharmacopoeia in these various directions; that you encourage them to become familiar with it, and to this end, that you place the volume in your library or laboratory, where the students may have access to it.

Very respectfully,

W. A. BASTEDO,
H. C. WOOD, JR.,
TORALD SOLLMANN, *Chairman*,
Of the Sub-Committee on Therapeutics and Pharmacodynamics.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of March the Board of Directors has held one regular meeting to consider the By-Laws, and the Society has held two scientific meetings.

The Society has empowered the President to appoint a Committee on Periodic Health Examinations, this Committee to formulate plans for a Periodic Health Week, which is proposed for some time this summer, most likely in the month of May. This Committee has been appointed as follows:

Dr. Paul J. Gelpi, chairman; Dr. J. Birney Guthrie, Dr. Urban Maes, Dr. J. W. Newman and Dr. P. B. Salaticch.

The Society has also ordered that the President appoint a Committee of three to be known as the Publicity Committee, this Committee to consist of an Internist, a Surgeon and a member at large. This Committee is to receive and censor in the name of the Society all medical material intended for the public. As yet this Committee has not been appointed.

The Scientific Programs at the two meetings were as follows:

March 14th—"Medicine in the Talmud." By invitation, Rabbi Mendel Silbur, M. D., Ph. D.

"The Newer Conception of Achylia Gastrica," by Daniel N. Silverman; discussed by Dr. Allan Eustis.

March 28th—"The Diagnosis of Coronary Occlusions," by Dr. I. I. Lemann; discussed by Geo. R. Herrmann.

"Septicemia," by Dr. Isidore Cohn; discussed by Drs. J. D. Rives and I. M. Gage.

"Neisserian Urethritis and Prostatitis—a Treatment Therefor," by Dr. Chas. E. Verdier.

The following were elected to membership:

Active Members—Drs. Morris J. Duffy and Theodore A. Jung, Jr.

Interne Members—Drs. F. Y. Durrance, A. J. McComiskey and Sam B. Saewitz.

The Society is now investigating the advisability of having motion picture films and phonographic records made of some of our prominent and distinguished members, a trial reel of Dr. Rudolph Matas having been made and a trial record of Dr. Ernest S. Lewis. No definite action has been taken yet in this matter as the samples records are yet to be demonstrated to the Society.

The Membership of the Society is now 486.

REPORT OF TREASURER

Actual Book Balance, 1-31-27	\$2,828.84
Receipts during February.....	\$2,217.34

	\$5,046.18
Expenditures	\$ 883.99

Actual Book Balance.....	4,157.19
Outstanding Checks	\$ 105.00

Bank Balance 2-28-27.....	\$4,262.19
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REPORT OF LIBRARIAN

Eight bibliographies have been prepared during the month on subjects as follows:

Right-sided Abdominal Pain.

Carcinoma of Pancreas.

Drainage of the Gallbladder (1925-26).

Dermoid Cysts of Ovary (1922-27).

Conservative Gynecology.

Warthin's Work on Syphilis of Heart.

Histamin (1925-26).

Congenital Umbilical Hernia (1916-26).

These lists have been placed on file for the use of the membership. The reference work has been so heavy that the Assistant Librarian has been unable to list any further books to send to the Interne's Library at Charity Hospital. We hope to continue this work during March. Approaching meetings of medical societies are always heralded by increased library activities. The reference calls have been constant.

70 books have been added to the Library. Of these 47 were received by binding, 13 from the New Orleans Medical and Surgical Journal and 10 by gift. 10 volumes were donated during February by Dr. H. W. E. Walther.

The new shelving and catalog case have been shipped and are expected at an early date, thereby helping to relieve the congested condition of our shelves and card records. A box of journals has been prepared and sent away for binding.

Accompanying this report is a list of the new books added to the collection during the month.

NEW BOOKS—FEBRUARY.

Montague—Modern Treatment of Hemorrhoids. 1926.

Veeder—Preventive Pediatrics. 1926.

Campbell—Delusion and Belief. 1926.

Macleod—Physiology and Biochemistry. 1926.

Silverman—Oral Surgery. 1926.

Koby—Slit-lamp Microscopy of the Living Eye. 1926.

- Meyer—Experimental Pharmacology. 1926.
 Evans—Recent advances in Physiology. 1926.
 Janet—Psychological Healing. 2 v. 1925.
 Arvedson—Medical Gymnastics and Massage. 1926.
 Blanton—Normal Physical Signs. 1926.
 Fannett—Surgery of Gastro-duodenal Ulceration. 1926.
 Lumb—The Urethroscope. 1919.
 Blum—Renal Diagnosis. 1914.
 Haire—Rejuvenation. 1925.
 Lewis—Cystoscopy and Urethroscopy. 1915.
 Baar—Die Indicanurie. 1912.
 Newman—Movable Kidney. 1907.
 Joergensen—Microorganism and Fermentation. 1911.
 American Laryngological, Rhinological and Otolological Association Transactions. 1926.
 Delavan—Early days of the Presbyterian Hospital, New York City. 1926.
 Commission on Medical Education—Preliminary Report. 1927.

H. THEODORE SIMON, M. D.,
 Secretary.

WHY WE SHOULD ATTEND SCIENTIFIC MEDICAL MEETINGS.

The Medical Profession, like any other organized group of workers in the world, requires association and exchange of ideas to promote its growth and power for good. The paramount achievement of the Medical Profession has been its advance along scientific lines; the relative benefits accruing to the human race have been incalculable and are still being reaped, while new seeds are yet being sown. In order that every member of organized medicine may do his part to further the improvements and advances of his profession and himself, he must associate and exchange ideas and experiences with his fellow practitioners. The opportunity to discharge this privilege and duty is best afforded by the meetings of the Medical Societies.

Many parish societies have the advantages and opportunity of meeting at frequent inter-

vals, some as often as twice a month, but the great bulk of the medical profession looks forward to the annual meeting of the State Medical Society as the coming of a much anticipated event. At our annual State Society Meeting and as the meeting of the parent society (the American Medical Association), an opportunity for concentrated post-graduate education is afforded, such as has never been the privilege of few other professions. The University professor and general practitioners, surgeons and internists, and men in all branches of medical practice bestow the whole gem of medical experience, on discussions following papers affording great benefit to humanity.

The coming meeting of the Louisiana State Medical Society, with the largest membership in its history, meeting in the greatest medical center in the South at the heights of its medical career, offers an opportunity unexcelled in the past for those attending, to derive the greatest benefit of the concentrated post-graduate education. At this meeting, for the convenience of the attending members, the program will be arranged as is done in the American Medical Association. Surgical and medical scientific sections will be separated, meetings going on simultaneously during the meeting. This will enable the members to attend the section in which he is most interested in and save a loss of time. Clinics will be provided on a larger scale than heretofore. New Orleans, which has more than ample equipment of hospital facilities, offers more clinical material than any other Southern city, and along certain lines provides more than any other city in America. The Medical Profession of New Orleans wants its professional brothers to come in large numbers, and they are assured of a hearty welcome and careful attention during their stay in our city.

C. V. UNSWORTH, M. D.,
 (Publicity Committee.)

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

ANNOUNCEMENTS OF ENTERTAINMENT PROGRAM.

Monday, April 25th, 1927.

Surgical Clinics in the morning.

Luncheon at 12:30, tendered by the French Hospital.

(Note: Automobiles will be at the Hutchinson Memorial at 12 o'clock to convey the guests to the French Hospital.)

Medical Clinics in the Afternoon.

(Note: These clinics are held for members of the Louisiana State Medical Society who are not members of the House of Delegates.)

FIRST DAY.

Tuesday, April 26th, 1927

Call to Order.....

.....Dr. S. M. Blackshear
President, Louisiana State
Medical Society

Invocation

Rev. Albert Beiver, S.J.
Rector Jesuit Church

Address of Welcome

.....City of New Orleans
Hon. Arthur J. O'Keefe,
Mayor

Address of Welcome

.....Orleans Pa. Med. So.
Dr. A. E. Fossier, Pres.

Address

.....Dr. S. M. Blackshear
President Louisiana State
Medical Society

Response

Dr. A. A. Herold,
Shreveport

President-elect, La. State
Medical Society

Luncheon at 12:30, tendered by the Baptist Hospital.

(Note: Automobiles will be at the Hutchinson Memorial at 12 o'clock to convey the guests to the Baptist Hospital.)

Tuesday at 8 p. m.....President's Reception
Auditorium, Elk's Club

Program to be prepared by the Secretary of the Louisiana State Medical Society, to be followed by dancing. Music furnished by the Dixola Orchestra.

Wednesday, April 27th.

Luncheon tendered by Hotel Dieu at 12.30.

(Note: Automobiles will be at the Hutchinson

Memorial at 12 o'clock to convey the guests to the Hotel Dieu.)

Wednesday at 7 p. m.....Annual Dinner
la Louisiane Restaurant

For members of the Louisiana State Medical Society.

Thursday, April 28th

Luncheon at 12:30, tendered by the School of Medicine, Tulane University.

Golf Tournament.

The Scientific Exhibits will be held in the Faculty Room as in the past.

Commercial Exhibits, 18 spaces have been sold out of 23, and we expect to dispose of the remainder in the next few days.

SPECIAL ANNOUNCEMENTS.

The Chairman of the Arrangement Committee wishes to call the attention of the Delegates to the following important announcements.

Automobiles will be furnished to convey guests to the various noon hour hospital luncheons and will be designated by an appropriate wind-shield mark.

The annual dinner is for members of the Louisiana State Medical Society and its invited guests.

Those desiring to attend the dinner will secure cards upon registration. No cards will be issued to New Orleans physicians after 5 p. m. April 26th. The books will be closed for the dinner to out-of-town visitors at noon April 27th. It will be absolutely necessary to secure cards for admission to the annual dinner.

Those members desiring to participate in the Golf Tournament will so register at the Registration Booth and will immediately be put in touch with Dr. Val H. Fuchs or a member of his Committee.



DR. S. M. BLACKSHEAR
President Louisiana State Medical Society

The annual dinner and the dance following the President's Reception will be informal affairs.

The attention of the members is called to the fact that there will be separate meetings for the medical and surgical sections.

LUCIEN A. LeDOUX, M. D.,
Chairman Arrangements Committee.

PARTIAL SCIENTIFIC PROGRAM OF LOUISIANA STATE MEDICAL SOCIETY
MEETING

New Orleans, April 26th, 27th and 28th

SECTION ON MEDICINE AND
THERAPEUTICS.

Dr. W. S. Kerlin, Chairman, Shreveport.

1. "Primary Intrathoracic Malignancy," by Dr. J. M. Perrett, New Orleans. To open discussion, Dr. Randolph Lyons, New Orleans; followed by Dr. Chaille Jamison, New Orleans.

2. "Syphilis of the Lungs, with Report of Case," by Dr. R. G. Douglas, Shreveport. To open discussion, Dr. T. P. Lloyd, Shreveport; followed by Dr. S. C. Barrow, Shreveport.

3. "Chronic Pancreatitis, with Report of Cases," by Dr. J. E. Knighton, Shreveport. To open discussion, Dr. Allan Eustis, New Orleans; followed by Dr. I. I. Lemann, New Orleans.

4. "The Protean Manifestations of Coronary Disease," by Dr. Frederick A. Willius, Rochester, Minn. To open discussion, Dr. A. E. Fossier, New Orleans; followed by Dr. G. R. Herrmann, New Orleans.

5. The Diagnosis of Hemolytic Jaundice," by Dr. John B. Elliott and Dr. F. M. Johns, New Orleans. To open discussion, Dr. A. A. Herold, Shreveport; followed by Dr. W. P. Butler, Shreveport, La.

6. "The Treatment of Aestivo Autumnal Malaria," by Dr. J. B. Vaughan, Monroe. To open discussion, Dr. C. C. Bass, New Orleans; followed by Dr. S. L. White, Ruston.

7. "Certain Phases of Gall-Bladder Function—Their Clinical Value," by Dr. D. N. Silverman and Dr. Leon J. Menville, New Orleans. To open discussion, Dr. S. K. Simon, New Orleans; followed by Dr. L. D. Gremillion, Alexandria.

SECTION ON PEDIATRICS.

Dr. E. R. Yancey, Chairman, Monroe.

1. "Toxic Diarrheas of Parenteral Origin," by Dr. J. A. Crawford, Lake Charles. To open discussion, Dr. L. I. Tyler, Baton Rouge.

2. "Three Interesting Cases Coincidental or Otherwise, Following Scarlet Fever Prophylaxes

Injections," by Dr. M. S. Picard, Shreveport. To open discussion, Dr. Chas. Bloom, New Orleans.

3. "Certain Aspects of Pneumonia in Early Life," by Dr. L. R. DeBuys, New Orleans. To open discussion, Dr. Ludo Von Meysenbug, New Orleans.

SECTION ON NERVOUS DISEASES.

Dr. T. J. Perkins, Chairman, Jackson.

1. "Some Observations which May Help to a Better Understanding in the Problems of Our Mentally Ill," by Dr. Robert H. Bryant, Pineville. To open discussion, Dr. Joseph A. O'Hara, New Orleans; followed by Dr. W. P. Butler, Shreveport.

2. "Epidemic Encephalitis, a factor in Some Morbid Mental States," by Dr. Henry Daspit, New Orleans. To open discussion, Dr. Edmund McD. Connelly, New Orleans; followed by Dr. C. S. Holbrook, New Orleans.

3. "The Influence of Hospitalization on the Mentally Ill," by Dr. M. S. Freiman, Jackson. To open discussion, Dr. John N. Thomas, Alexandria; followed by Dr. C. S. Miller, Jackson.

SECTION ON BACTERIOLOGY AND
PATHOLOGY.

Dr. J. A. Lanford, Chairman, New Orleans.

1. "The Etiology of Measles," by Dr. C. W. Duval, New Orleans. To open discussion, Dr. W. H. Harris, New Orleans; followed by Dr. J. H. Musser, New Orleans.

2. "Proper Interpretation of Total White and Differential Blood Findings, by Dr. F. G. Ellis and Dr. W. P. Butler, Shreveport. To open discussion, Dr. C. E. Hamner, Shreveport.

3. Dr. George Hauser, New Orleans. Title not yet announced.

SECTION ON PUBLIC HEALTH AND
SANITATION.

Dr. J. W. Faulk, Chairman, Crowley.

1. "Mental Hygiene in Relation to General Health," by Dr. G. M. G. Stafford, Alexandria. To open discussion, Dr. Chas. Holbrook, New Orleans; followed by Dr. T. J. Perkins, Jackson.

2. "The Proper Relation between the Health Officer and the Physician," by Dr. Felix J. Underwood, State Health Officer, Jackson, Miss. To open discussion, Dr. Oscar Dowling, New Orleans; followed by Dr. L. R. DeBuys and Dr. R. W. Mendelson, New Orleans.

3. "The Milk Problem from the Municipal Health Officer's Viewpoint," by Dr. J. G. Martin,

Lake Charles. To open discussion, Mr. Leslie C. Frank, U. S. P. H. S.; followed by Dr. W. H. Robin, New Orleans.

4. "Milk, Its Relation to Infectious Diseases," by Dr. P. R. Neal, Monroe. Discussion to be opened by Dr. K. E. Miller, Director, Parish Health Administration; Dr. John Schreiber, Franklinton, and Dr. W. W. Butterworth, New Orleans.

SECTION ON GENERAL SURGERY.

Dr. Emmett L. Irwin, Chairman, New Orleans.

1. "Differential Diagnosis between Acute Articular Rheumatism and Acute Osteomyelitis," by Dr. Guy A. Caldwell, Shreveport. Lantern Slides. To open discussion, Dr. Carroll W. Allen, New Orleans; followed by Dr. W. F. Henderson and Dr. H. Theodore Simon, New Orleans.

2. "Bilateral Empyema of Pleural Cavities," by Dr. J. Q. Graves, Monroe. Report of Three Cases. To open discussion, Dr. Erasmus D. Fenneer, New Orleans; followed by Dr. S. C. Lyons, New Orleans.

3. "Management of Cases of Obstructive Jaundice," by Dr. Waltman Walters, Mayo Clinic, Rochester, Minn. To open discussion, Dr. J. H. Musser, New Orleans; followed by Dr. D. N. Silverman and Dr. Jerome Landry, New Orleans.

4. "Difficult Femurs," by Dr. Muir Bradburn, New Orleans. To open discussion, Dr. Paul McIlhenny, New Orleans.

5. "Observations on Dermatomyces in New Orleans," by Dr. Aldo Castellani, New Orleans. To open discussion, Dr. H. E. Menage, New Orleans; followed by Dr. Ralph Hopkins, New Orleans.

6. "Hernia of Ovary and Fallopian Tube," by Dr. Isidore Cohn, New Orleans. To open discussion, Dr. John Dicks, New Orleans; followed by Dr. P. Graffagnino, New Orleans.

7. "The Acute Abdomen," by Arthur E. Hertzler, University of Kansas, Kansas City, Mo.

8. "Ununited Fractures," by Dr. Willis C. Campbell, Memphis, Tenn. To open discussion, Dr. Isidore Cohn, New Orleans; followed by Dr. John T. O'Ferrall, Dr. H. Theodore Simon, New Orleans, and Dr. Guy A. Caldwell, Shreveport.

9. "Breast Tumors—What Shall We Do with Them," by Dr. A. C. King, New Orleans. To open discussion, Dr. J. A. Danna; followed by Dr. I. M. Gage and Dr. Chas. W. Duval, New Orleans.

SECTION ON GYNECOLOGY AND OBSTETRICS.

Dr. Hilliard E. Miller, Chairman, New Orleans.

1. "The Common Causes of Uterine Bleeding," by Dr. C. Jeff Miller, New Orleans. To open discussion, Dr. Curtis H. Tyrone, New Orleans; followed by Dr. H. W. Kostmayer, New Orleans.

2. "Comparative Results of the Cautery versus Sturmdorf Operation in Certain Lesions of the Cervix," by Dr. David I. Hirsch, Monroe. To open discussion, Dr. C. A. Wallbillich, New Orleans; followed by Dr. P. Graffagnino, New Orleans.

3. "Treatment of Pre-Eclamptic Toxemia," by Dr. H. Vernon Sims, New Orleans. To open discussion, Dr. Maurice J. Gelpi, New Orleans; followed by Dr. Arthur Caire, Jr., New Orleans.

4. "Conservation Gynecology," by Dr. W. D. Phillips, New Orleans. To open discussion, Dr. E. L. King, New Orleans; followed by Dr. John Dicks, New Orleans.

SECTION ON EYE, EAR, NOSE AND THROAT

Dr. J. P. Leake, Chairman, New Orleans.

1. "Foreign Bodies in the Air and Food Passages," by Dr. H. L. Kearney, New Orleans. To open discussion, Dr. R. C. Lynch, New Orleans; followed by Dr. A. I. Weil, New Orleans.

2. "Some Observations Made on a Recent Visit to Several European Eye Clinics," by Dr. H. N. Blum, New Orleans. To open discussion, Dr. Victor Smith, New Orleans.

3. "Indications for Surgical Procedure in Sphenoiditis from Ophthalmological Studies," by Dr. M. Earle Brown, New Orleans. To open discussion, Dr. Carl Granberry, New Orleans; followed by Dr. C. W. Blackshear, Opelika, Ala.

4. "My Observation of the Surgical Correction of Squint," by Dr. Arthur Whitmire, New Orleans. To open discussion, Dr. I. Littell, Alexandria; followed by Dr. Rufus Jackson, Baton Rouge.

SECTION ON UROLOGY.

Dr. E. K. Hirsch, Chairman, Baton Rouge.

1. "Preoperative and Postoperative Care of Prostatics," by Dr. P. Jorda Kahle, New Orleans. To open discussion, Dr. B. M. McKoin, Monroe.

2. "Caudal Anaesthesia in Urology," by Dr. Frank J. Chalaron, New Orleans. To open discussion, Dr. H. W. E. Walther, New Orleans.

SECTION ON RADIOLOGY.

Dr. Lucien A. Fortier, Chairman, New Orleans.

1. "Ultra Violet Radiations," by Dr. E. C. Samuel and Dr. E. R. Bowie, New Orleans.

2. "Relief of Pains in the Head by the Use of Physical Means," by Dr. W. A. Lurie, New Orleans.

3. "Radiation Therapy of Benign Pelvic Pathology," by Dr. S. C. Barrow, Shreveport.

We would desire to call your attention that our President, Dr. S. M. Blackshear, has asked that all meetings of the House of Delegates and also the meetings of the Scientific Session of the Convention be opened on time, in order that we may be able to finish our Program. Your co-operation in this regard is earnestly requested, so that the Sessions of the House and the General Meetings may not be delayed. Also you will observe from our program it is very complete in all departments, and it would be only by strict punctuality and adherence that same can be satisfactorily completed.

CLINIC DEMONSTRATIONS.

New Orleans has always been known as one of the great centers of Clinical Medicine of this country. With its varied hospital facilities a great amount of clinical material is attracted here on account of the numerous well equipped hospitals and we feel that there will be ample demonstrations to inspire interest for all who care to take advantage of this feature of the coming meeting of the Louisiana State Medical Society.

The chairman in charge of arranging this instructive program has already submitted a tentative schedule which will impress upon you a number of the best demonstrations that we are able to put forth.

Clinics have been arranged at all of the hospitals, that is, the Charity Hospital, Touro Infirmary, Hotel Dieu, Baptist Hospital, Presbyterian Hospital, French Hospital, Eye, Ear, Nose and Throat Hospital and Mercy Hospital, as well as some of scientific nature at the Hutchinson Memorial.

It is a noteworthy fact that demonstration clinics have been planned without any special attempt at "Orgies of Blood" in the operative way, as was formerly the fashion. We have felt that diagnostic and scientific clinics, without any great attempt at showing operations, would be more profitable,—consequently this idea has been put into effect.

We note on the program that a number of men are having scientific demonstrations in physiology, cardiology, tropical medicine, dermatology and allied subjects. This accentuates the fact that New Orleans is rapidly making a name for itself as a great center of scientific medicine as well as a center of clinical teaching.

The committee feels sure that these pre- and post-convention clinics will be a source of pleasure and profit to the visiting members of the Louisiana State Medical Society, and the Orleans Parish Medical Society, as the host, feels itself specially obligated to make this clinic feature most attractive.

The complete program, especially in regard to clinic material, has not been finally arranged; however, there is given below a tentative draft of some of the demonstrations which have been submitted up to this time.

Under the chairmanship of Dr. Isidore Cohn daily schedules will be posted in convenient places so that the membership will have the opportunity of choosing the subjects of most interest to each one individually.

PRE-CONVENTION CLINIC PROGRAM.

Hutchinson Memorial Building, Monday,

April 25th.

Dr. George R. Herrmann, 9:30-10:15.

Lantern Slide Lecture, "Electrocardiography."

10:15-11:15

The Department of Physiology will give the following talks:

1. Helio- and Phototherapy. The Radiation of the Sun compared with that of the Mercury vapor quartz lamp and the Carbon Arc. 15 minutes. Lantern. Henry Laurens.

2. Some Physiological Effects of Radiation. 15 minutes. Lantern and Charts. H. S. Mayerson.

3. Charts illustrating Cardiac Physiology and Electrocardiographic principles with applications. 15 minutes. Richard Ashman.

4. Charts illustrating the effects of climate on Basal Metabolism. 15 minutes. Roberta Hafkesbring.

11:15—12:15.

In the Department of Tropical Medicine, Drs. Castellani and Mendelson will give demonstrations and clinical talks on interesting Tropical Diseases.

Adjournment for luncheon at the French Hospital at 12:30.

2 P. M.

Under the auspices of the New Orleans Gynecological and Obstetrical Society, Round Table Conference will be participated in by members of this Organization. The exact program will be announced later.

2:45. Gynecological Symposium.

Dr. Thomas B. Sellers and

Dr. L. W. Magruder, The Use of Radium in the Treatment of Uterine Fibroids.

Dr. H. W. Kostmayer, The Use of the Pessary.

Dr. John T. Sanders, The Rubin Test.

Dr. J. R. Flowers, Endocervicitis.

Dr. W. D. Phillips, Uterine Hemorrhage.

To be held in connection with the New Orleans Gynecological and Obstetrical Society.

Charity Hospital. Program in Charge of Dr. Jerome E. Landry.

8—12.

Surgery.

Dr. Matas	Dr. Graffagnino
Dr. Martin	Dr. Leckert
Dr. Cole	Dr. Fenner
Dr. Dorrestein	Dr. S. G. Wilson
Dr. Kostmayer	Dr. Paul McIlhenny
Dr. Maes	Dr. Richard

The above men are operating on their regular schedule days. The list of operations will be announced later.

Adjournment for luncheon at the French Hospital at 12:30.

2 P. M.

1. Dr. Castellani. Dermophytosis.
2. Dr. Musser. Blood Dyscrasia.
3. Dr. Turner. A new instrument demonstrating the velocity of pulse wave in various conditions, i. e., Hypertension arterio-sclerosis, etc.
4. Dr. Fossier. Hypotension.
5. Dr. Granger. Demonstration in Radiology.
6. Dr. Couret. Demonstration in Pathology.
7. Dr. McIlhenny. Physiotherapy.
8. Dr. Simon. Physiotherapy.
9. Dr. Signorelli. Clinics Pediatrics.

Charity Hospital.

The Louisiana Dermatological Society will conduct a Round Table Conference, the following program will be had.

Skin Clinic.

9—11 A. M.

1. Vegetable Parasitic Diseases. Dr. H. E. Menage.
 2. Syphilides. Dr. Ralph Hopkins.
 3. Plant Allergy. Dr. J. N. Roussel.
 4. Malignancies. Dr. M. T. Van Studiford.
 5. Tropical Dermatomyecosis in New Orleans. Dr. Aldo Castellani.
 6. Animal Parasitic Diseases. Dr. R. A. Oriol.
 7. Erythemia Multiforme. Dr. J. A. Devron.
 8. Treatment in General. Dr. T. A. Maxwell.
- The above program is in charge of Dr. T. A. Maxwell.

Adjournment for luncheon at the French Hospital at 12:30.

Touro Infirmary.

9—12.

In the various operating rooms operative surgical clinics will be held by the Staff. The operating surgeons and the operations will be announced later.

Adjournment for luncheon at the French Hospital at 12:30.

2 P. M.

1. Mistakes in Diagnosis of Heart Disease. J. M. Bamber, M. D.
2. Renal Thresholds in Diabetes Mellitus. R. T. Liles, M. D.
3. Pituitary Obesity. Harold A. Bloom, M. D.
4. Neoplasms of the Lung. I. I. Lemann, M. D.
5. Irritable Colon and Its Treatment. S. K. Simon, M. D., and D. C. Browne, M. D.
6. Present Status of Gall Bladder Disease. A. L. Levin, M. D.
7. Functional Diarrhea. D. N. Silverman, M. D.
8. Chronic Arthritis. J. C. Cole, M. D.
9. Hepatic Cirrhosis in Childhood. C. L. Eshleman, M. D.
10. Interesting Cases of Cerebro-Spinal Syphilis. C. S. Holbrook, M. D.
11. The Effect of Exanthin Bases as Diuretics in Myocardial Conditions. R. Lyons, M. D.
12. Ambulatory Treatment of Diabetes Mellitus. J. B. Guthrie, M. D.

Touro Infirmary.

Pediatric Clinic under direction of Dr. L. R. DeBuys.

Drs. Von Meysenbug, Kinberger, Loeber and Williams, subjects to be announced later.

Demonstrations by Dr. Lanford and Staff in Pathological Department.

Hotel Dieu.

Program in charge of Dr. Maurice J. Gelpi.

Eye, Ear, Nose and Throat Staff from 8 a. m. to 10 a. m.

Drs. Homer Dupuy, Jules Dupuy. T. J. Dimitry, R. H. Fisher, Val Fuchs, J. J. Ryan, A. A. Keller, G. J. Taquino and J. B. Larose.

A.—Usual surgical program, details of which will be announced later.

B.—Fifteen minutes practical talks:

8:00—Dr. Marion Souchon. Appendicitis.

8:15—Dr. J. T. Nix. Laminectomy.

8:30—Dr. D. J. Murphy. Cancer of Rectum.

8:45—Dr. John Signorelli. Infant Feeding.

9:00—Dr. P. A. Kibbe, Ethylene Gas Anaesthesia—McKesson Apparatus.

9:15—Dr. Lucien LeDoux. Cesarean Section.

9:30—Drs. Fortier and Gately. X-ray Demonstrations—Gall Bladder Visualization—Lipiodol Instillation.

9:45—Dr. H. E. Nelson. Atrophic Cirrhosis of Liver.

10:00—Dr. P. B. Salatich. Conservative Gynecology.

10:15—Dr. Louis Levy. Recent Advances of Thyroid Surgery.

10:30—Dr. M. Couret. Practical Blood Typing and other Laboratory Methods.

10:45—Dr. Maurice J. Gelpi. Splanchnic Anaesthesia in Upper Abdominal Surgery.

11:00—Dr. C. V. Unsworth. Traumatic and Post-Operative Phycoses.

11:15—Dr. A. E. Fossier. Electrocardiography.

11:30—Dr. A. Maher. Practical Value of Blood Chemistry.

11:45—Dr. J. A. Danna. Artificial Pneumothorax.

12:00—Dr. Paul J. Gelpi. Significance of Hematuria.

Adjournment for luncheon at French Hospital at 12:30.

Mercy Hospital.

Program in charge of Dr. John F. Dicks.

9—12.

9 A. M. Surgery—Drs. Ficklen and Leckert.

10:30 A. M. Gynecology—Drs. Dicks and Mayer.

11:30 A. M. Medical—Drs. Jamison and Campagna.

Clinic—Orthopedic, Drs. Fenner and Battalora.

Urology, Drs. Chalaron and Maihles.

Adjournment for luncheon at French Hospital at 12:30.

Presbyterian Hospital.

In Charge of Dr. J. M. Batchelor.

Program to be announced later.

Eye, Ear, Nose and Throat Hospital.

Program in charge of Dr. F. E. LeJeune.

Surgical Clinic to be by Dr. R. C. Lynch and Staff and Dr. Crebbin.

Illinois Central R. R. Hospital.

Clinic on Traumatic Surgery will be given by Dr. C. P. Brown.

Southern Baptist Hospital.

Program in charge of Dr. Shirley C. Lyons.

8—10 O'clock. Surgical Floor.

General Operative Clinic by Members of Surgical Staff.

The list of operations will be announced.

8:30—Dr. Samuel Hobson. General Management of Nephritis.

8:45—Dr. H. W. E. Walther. Diathermy in Urological Conditions.

9:00—Dr. P. J. Kahle. Urological Clinic.

9:15—Dr. C. L. Peacock. Hydronephrosis.

9:30—Dr. Allan Eustis. The Diagnosis and Treatment of Failing Liver Function.

9:45—Dr. W. A. Love. Lymphatic Leukemia.

10:00—Dr. John Smyth. Tumors of Face, with lantern slide illustrations.

10:00—Dr. Upton Giles and Dr. H. B. Alsobrook. Diabetic Symposium from Medical and Surgical Standpoint. (In Clinic Room, first floor.)

10:15—Dr. C. G. Cole. Surgery of the Gall Bladder.

10:30—Dr. Earl A. Hogan. Life Insurance Examinations.

10:45—Dr. Carroll W. Allen and Dr. Wilkes A. Knolle. Physical Therapy Aides in Post Operative Care. (Diathermy Department, sixth floor.)

11:00—Dr. O. W. Bethea. Diagnosis and Care of the Failing Heart.

11:15—Dr. Edwin A. Lawson. Pathological Conference. (Laboratory, eighth floor.)

11:30 — Dr. Waldemar Metz. Blood Transfusion.

11:45—Dr. Edmund McC. Connelly. Trifacial Neuritis.

12:00—Dr. Robert Potts. Unusual Heart Conditions.

Adjournment for luncheon at French Hospital at 12:30.

2:00 — Dr. Guy A. Caldwell, Shreveport, and

2:30—Dr. J. T. O'Ferrall. Orthoplasty of Knee. Demonstration of case.

2:30 — Dr. Emmett L. Irwin. Clinic on Osteomyelitis.

2:45 — Dr. John H. Musser. Treatment of Measles.

3:00 — Dr. J. Holmes Smith. Amoebiasis.

3:15—Dr. Rena Crawford and Dr. G. Richarda Williamson, Pediatric Clinic.

3:30—Dr. C. S. Holbrook. Diagnosis and Treatment of Neuro-Syphilis.

3:45—Dr. Shirley C. Lyons. Thoracic Clinic. Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis Tuberculosis. Tuberculous Empyema.

Upon your arrival in New Orleans you will be able to obtain the operative schedule by telephoning the respective hospitals the night before.

Arrangements for this program have been in charge of Dr. Isidore Cohn, Chairman.

STATE MEDICAL SOCIETY GOLF TOURNAMENT.

The golf tournament will be held at the Colonial Country Club and may be played on any of the days of the meeting. Notice must be given to the club professional, or to a member of the Golf Committee, before starting out, that the round played is to count in the tournament play. Entrants must bring their club handicaps.

There will be four different contests, all of which may be competed for in one round of play, if the contestant so desires. There will be the

Low Gross Score, Low Net Score, Kickers and Blind Hole tournaments.

Hausmann, Inc., have offered a very pretty cup for the low gross score. This cup will only become the permanent possession of anyone after winning it three times, not necessarily in successive years.

I. L. Lyons will also donate cup as prize for the Golf Tournament.

All further data can be obtained from

VAL H. FUCHS, M. D.,
Chairman of Golf Tournament.

SCIENTIFIC EXHIBITS.

There will be some very interesting Scientific Exhibits in the Faculty Room, Hutchinson Memorial Building, some of which are listed below.

X-ray Pictures. Dr. A. Henriques.

Exhibit of Department of Hay Fever and Asthma, Charity Hospital. Service of Dr. Wm. Scheppegrell and Dr. N. F. Thiberge.

"Radiographs of Conditions of the Chest Simulating Asthma."

Exhibit of Department of Tropical Medicine. Dr. Aldo Castellani.

Exhibition of photographs of Squint Work. Dr. A. L. Whitmire.

Exhibits, 1. Special Instrument. 2. Interesting Specimens. 3. Lantern Slides. 4. Interesting Radiographs showing Primary Intra-thoracic Malignancy. J. T. Nix Clinic.

A Method for determining the quantitative reaction of stools. Dr. Daniel N. Silverman.

Demonstrations of the Color Acuity Test, with copies of peripheral fields together with case histories, a standard perimeter. Dr. M. Earle Brown.

Photomicrographs of urine sediments. Dr. F. M. Johns.

Interesting pyelograms, urological specimens and original urological instruments. Dr. H. W. E. Walther.

Methods of Diagnosis in Diseases of the Cardio Vascular System. Dr. B. R. Heninger.



GOLF CUP

ENTERTAINMENT.

While the prime object of medical meetings is to recharge our mental batteries, there is the social and humanistic side which finds its outlet in the entertainment features. These will offer opportunities for the sweet amenities of life, for recementing old friendships and the forging of new ties. With the "greater Hotel Dieu," the new Baptist Hospital, the reopened French Hospital, and Tulane Medical College, as our hosts for luncheon, there is a guarantee of tempting menus for the gastronomic side. At the famed "Louisiana" will be served a feast fit for Lucullus. Fancy such culinary products as: crayfish cocktail a la Paul Gelpi; bouille bass(e) a la C. C. Bass; stinga-ray a la Menville; French pastry a la LeDoux; and synthetic concoctions a la Seemann. There will be scintillations of wit and humor when our own Larry "turn the crank" becomes postprandial. This one night we will be unfettered, wifeless, when we go "stagging." Dr. R. Mainegra, our Chairman, will offer special importations from Broadway. On such a night, we will have to remember, that women are as old as they look, and men are only when they stop looking. So wide is the range of entertainment, that those who wish to chase the diminutive ball across verdant fields can meet contestants in the Golf Tournament. But the gala event will be the President's Reception, which will bring together the Doctors and "our Guests." God's fairest creatures will grace this occasion. And the night shall be filled with music, there will be a loosening of some stiff hinges as we "trip the light fantastic toe." On with the Dance! We must not miss it. Esculapians! like the Arabs of old, fold your tents, silently steal away from the cares that infest the day, and come to the State Medical Meeting at which all the glamor, beauty, and wholehearted hospitality of our City will be yours.

HOMER DUPUY.
(Publicity Committee)

The Bi-Parish Medical Society met in Clinton, La., February 2nd. An instructive and interesting paper was read by Dr. M. R. Freeman of the East Louisiana State Hospital on "Acute Gastro-Enteritis," discussed by members present. Dr. C. S. Miller of the East Louisiana State Hospital read instructive articles from The Journal of the American Medical Association.

At our next meeting, which will be held with the Superintendent and Staff of the East Louisiana State Hospital, the second Wednesday of April, Dr. J. W. Lee of Jackson will read from the Journal of the La. State Society, and Dr. C. P. May of the East Louisiana State Hospital will read a paper on Endocrines.

At our February meeting dinner was served in the Rest Hotel, which was thoroughly enjoyed.

The Eighth Congressional Medical Society met in Natchitoches, La., Tuesday, March 8, 7 p. m. sharp.

The following program was given:

Address by President Louisiana State Medical Association—Dr. S. M. Blackshear, New Orleans.

Prominent Landmarks in Modern Medicine, by the President-Elect—Dr. A. A. Herold, Shreveport, La.

The Treatment of Burns—By Dr. R. S. Roy, Lake End, La.

Immediately following the program, the Natchitoches Parish Medical Society entertained with a banquet, which everyone enjoyed.

A business and scientific meeting of the Third Congressional District Medical Society was held on March 8th. The doctors were wonderfully entertained by their confreres of Morgan City. The meeting was held aboard the fine steamboat "Norman" which is owned by the Mayor, M. E. Norman of Morgan City.

Dr. H. G. F. Edwards of Lafayette presided with Dr. Voorhies as secretary. Representative Hebert of St. Mary Parish delivered the welcome address. Dr. Homer Dupuy and Dr. Lucien LeDoux spoke on subjects interesting to the general practitioner.

The following officers were elected for the year 1927:

President—Dr. C. C. DeGravelles, Morgan City.

Vice-President—Dr. J. L. Beyt, St. Martinville.

Secretary-Treasurer—Dr. R. D. Voorhies, Lafayette.

Delegate—Dr. C. M. Horton, Franklin.

Alternate—Dr. T. I. St. Martin, Houma.

The supper was a feast thoroughly enjoyed. There were invitations from two sources for the next meeting but it was decided to convene the next session at Lake Catahoula. The hosts will be the physicians of St. Martin Parish. The following session will take place in Houma, by invitation of the Lafourche Valley Medical Society.

At the December meeting the following officers were elected for 1927:

President—Dr. R. F. DeRouen, Clarence, La.

Vice-President—Dr. Joseph Bath, Natchitoches, La.

Secretary-Treasurer—Dr. W. W. Knipmeyer, Natchitoches, La.

At the January meeting, held on Jan. 25, Dr. J. A. Hendrick, of Shreveport, La., gave the principal address. His subject was "The Treatment of Fibroid Tumors of the Uterus."

At the February meeting held on Feb. 22, Dr. A. A. Herold, President-elect of the State Society, gave the principal address. His subject was, "Some Facts in Medicine with special emphasis on Diagnosis."

The Society has a membership of 20 at the present time. This is the same membership as was maintained all during the year of 1926 and is the largest in the history of the Society.

The meeting of the Eighth District Medical Society which was held on March 8 in Natchitoches was postponed on account of the inclement weather.

During 1926 the following papers were read before this Society:

January, President's Address, Dr. R. F. DeRouen, Clarence, La.

February, "Need of Exact Diet in Diabetes," Dr. B. E. Nelken, Natchitoches, La.

March, "The Alkali Balance in Surgical Cases," Dr. E. L. Sanderson, Shreveport, La.

April, Meeting of State Society.

May, "Surgical Diagnosis of Gall-bladder Disease," Dr. J. I. Peters, Alexandria, La.

June, "Safe and Effective Surgery for the Hypertrophied Prostate" Dr. M. H. Foster, Alexandria, La.

July, "Indiscriminate Use of Opiates and Total Abstinence of Food and Cathartics in Acute Abdominal Conditions," Dr. Penn Crain, Shreveport, La.

August, "Pediatrics in Daily Practice," Dr. M. S. Picard, Shreveport, La.

September, "Sterilization of Mental Derelicts," Dr. J. N. Thomas, Pineville, La.

October "Diseases of the Pancreas," Dr. J. E. Knighton, Shreveport, La.

November, "Some Aspects of Modern Preventive Medicine."

December, Annual Banquet. The members and ladies were guests of President and Mrs. DeRouen at their home in Clarence.

The LaSalle Parish Medical Society (Physicians Improvement and Protective Association) met at Urania, March 3rd, at 2 p. m.

Vice-President Dr. J. P. Durham presided. The President, Dr. T. M. Butler, absent because of personal illness.

Visiting Physicians: Dr. R. O. Simmons, Dr. D. C. McBride, Dr. M. H. Foster, and Dr. Marvin Cappel, Alexandria; Dr. S. C. Barrow and Dr. C. R. Gowan, Shreveport; Dr. I. N. Adams, Selma, and Dr. C. W. Patterson, Tullos. Local membership well represented.

Dr. W. V. Taylor outlined briefly the history of the Society the purpose of the organization and the work accomplished in the field of organized medicine, calling attention to the outstanding character and high personnel of its membership. He paid a tribute to high standing and reputation in the State of Honorary Membership, particularly eulogizing Dr. I. J. Newton of Monroe and Dr. R. O. Simmons of Alexandria for valuable services rendered organized medicine in Louisiana, and in behalf of humanity. Men whose reputations were not locally invironed but interstate.

Dr. C. W. Patterson of Tullos was unanimously elected to membership. Upon motion of Dr. R. O. Simmons, seconded by Dr. Taylor, Dr. H. W. Kostmayer was elected honorary member, after many very eulogistic remarks by members.

The Scientific Program consisted in a paper read by Dr. S. C. Barrow of Shreveport, "Radiation in Non-Malignant Gynecology." Dr. Barrow was particular in pointing out that there was no conflict between the use of radium and rational surgery, both having distinct fields of action. Dr. Barrow not only impressed one with his personality, but with his knowledge of his subject. He threw a flood of light upon the therapeutics and technique of radiology. The paper was well received, was instructive and entertaining. At its conclusion there was spontaneous and liberal applause, and Dr. Barrow was warmly congratulated.

Dr. D. C. McBride, of Alexandria, opened the discussion from the standpoint of a radiologist. Dr. R. O. Simmons and Dr. M. H. Foster discussed it from the viewpoint of the surgeon.

Dr. C. R. Gowan exhibited X-ray pictures of Pulmonary Tuberculosis, showing step by step the reparatory process toward recovery and what

can be done by almost absolute rest and feeding. These radiograms were very instructive, and much appreciated. After adjournment, Dr. O. F. Matthews invited the Society and guests to the Domestic Science Building, Urania High School, where an elegant lunch was served by the Domestic Science teacher and her students.

At the regular meeting of the Rapides Parish Medical Society, held Monday evening, March 7th, at the Baptist Hospital Alexandria, a scientific program was rendered as follows:

"Melanotic Sarcoma, With Report of Case and Presentation of Autopsic Specimens," by Dr. J. E. Knighton, Shreveport. "Acidosis," by Dr. C. M. Jarrell, Alexandria.

The Baptist Hospital of Alexandria has launched its campaign to raise \$100,000. Among the improvements contemplated are the erection of a new Nurses' Home to cost \$50,000 and the increase in the number of hospital beds from 60 to 100.

DR. STIRLING HONORED.

Dr. Louis Grey Stirling, eldest in years of service of Baton Rouge physicians, on March 9, at a dinner given in his honor by the East Baton Rouge Parish Medical Society, was made permanent chief of staff of Our Lady of the Lake Sanitarium, and was presented a loving cup as dean of medicine in this community.

About 35 members of the society gathered at the Istrouma hotel where the tribute was paid him.

Louis Grey Stirling was born in West Feliciana Parish, Louisiana, February 8, 1862, and received his early education in private schools of his native parish. He was graduated from school of medicine, at Tulane University of Louisiana, with class of 1894, and during his last year served as interne in Touro Infirmary. He began practice of medicine in Baton Rouge in April, 1894, and has spent his entire life there. On December 9, 1896, he was married to Miss Alma Mansur. He is affiliated with the East Baton Rouge Medical Society, of which he has served as president, the Sixth Congressional District Medical Society; the Louisiana State Medical Society, of which he has served as vice-president, and American Medical Association. He has been head physician of the State Prison since 1900. He served as member of City Council from 1902 to 1906. He is a member of the Episcopal Church, and also member of Masonic Fraternity, being a Chapter Degree Mason and Past Master of St. James

Lodge. He is permanent Chief of Staff of Our Lady of the Lake Sanitarium.

Dr. J. A. Caruthers was toastmaster.

The program was as follows:

Address by His Honor Wade H. Bynum, Mayor.

Presentation of Silver Loving Cup by Dr. Philip H. Jones.

Conferring the office of Permanent Chief of Staff by Our Lady of the Lake Sanitarium, Dr. Lester J. Williams.

Flowers presented by Baton Rouge General Hospital, Our Lady of the Lake Sanitarium and the Graduate Nurses' Association of Baton Rouge.

Those present included the following doctors: J. A. Tucker, G. W. Sitman, H. Guy Riche, R. C. Kemp, Bob Jones, C. F. Duchain, L. F. Lorio, W. H. Pipes, J. J. Robert, W. R. Eidson, T. C. Foreman, E. B. Young, Rhett G. McMahon, C. A. Lorio, Cecil Lorio, W. B. Chamberlain, H. W. Lee, J. R. Chisholm, J. H. McCaa, Henry McKowen, Tom Spec Jones, Rufus Jackson, Louis K. Tyler, P. H. Jones, J. A. Caruthers, L. J. Williams, H. C. Morris, T. C. Paulsen and E. O. Trahan, C. A. Weiss, John McKowen.

The Shreveport Charity Hospital has, recently, let out contract for another new building to care for the rapidly-increasing demand for space.

The North Louisiana Sanitarium, Shreveport, has completed its twenty-five room addition to its main building.

Dr. M. S. Ledoux, Shreveport, was elected secretary of Shreveport Medical Society, at its March meeting, vice Dr. E. Clay Edwards, who resigned, as he has moved to Monroe, to become Director of Ouachita Parish Hospital Unit.

Drs. R. G. Douglas and W. S. Kerlin, Shreveport, attended the recent clinical congress of the American College of Physicians at Cleveland, O.

DR. O'LEARY HONORED.

On the evening of January 29th a group of Shreveport doctors gathered around the festive board at the Washington Hotel, to honor one of their fellow-practitioners, who reached the age of eighty on the following day. Dr. F. S. Furman, who has practiced as one of Dr. O'Leary's

colleagues for over thirty years, and who, therefore, is fully capable of knowing whereof he speaks, presided as toast master. In addition, talks were made by Drs. Willis, Kimbell, Dickson, Ragan, Rougon, Bodenheimer, Boaz, Barrow, Herold, Hargrove, Knighton and others present; the gist of it all was that the testimonial was not because one of the members of the Shreveport Medical Society had reached the advanced age of four score years, but because such a man as Dr. O'Leary—one who had done so much good in such an unostentatious way, the friend of the high and the humble, the rich and the poor, one whom every acquaintance calls "friend," and who, as far as is known, has no enemy or anyone to speak unkindly of him, a veteran of the Civil War (serving when he was but a boy), and yet a great lover of peace, truly a "gentleman of the old school," yet progressive and up-to-date in his work—because such a man as this is still hale, hearty and active and good for many more years of practice the assembled crowd paid homage, rendered thanks and extended best wishes.

In addition to the banquet, attended by Dr. O'Leary and his son, a suitable remembrance was presented to the guest of honor, on behalf of those assembled, by Dr. Furman.

DR. MICHAEL F. MORVANT.

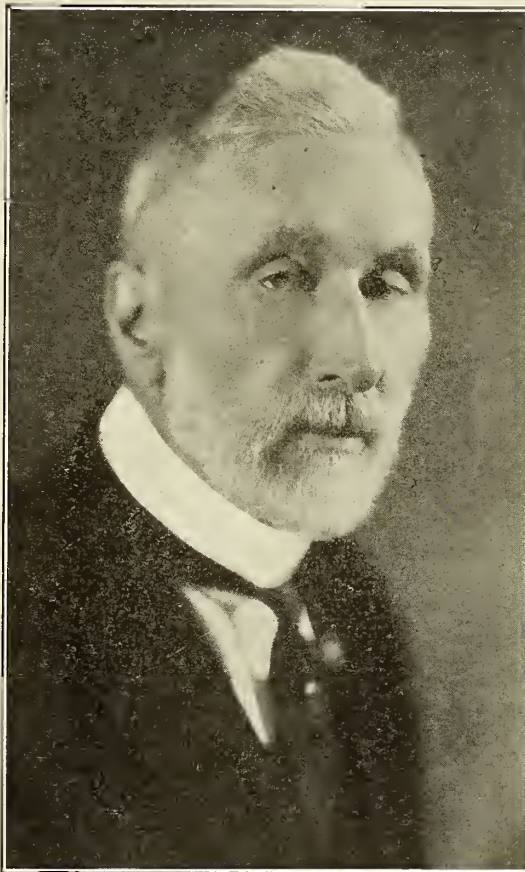
Dr. M. F. Morvant, coroner of Iberia Parish, died suddenly in his medical office in the town of Jeanerette, at 2:30 o'clock on the evening of February 16th. Dr. Morvant was a son of Mr. R. Morvant and was born on February 1st, 1887. When a young man, he took up the study of medicine and graduated in the Tulane Medical College some twenty years ago. Since that time he had been an active practitioner, enjoying the confidence of a large clientele. During the World War Dr. Morvant entered the army and was commissioned a first lieutenant, being placed in medical charge

of an aviation corp. He was for a long time stationed in the State of Oregon. As soon as peace was declared he returned to his family in

the town of his birth, and resumed his practice. Some six years ago he was elected Parish Coroner, which position he held until his demise. He leaves to mourn him, his wife, nee Elizabeth Dimitry, one daughter and young son.

The funeral was held at the church of his faith, St. John's Catholic Church, on Thursday evening at 4 o'clock in the presence of a large number of friends from all over South Louisiana. His wife and children and bereaved father have the sympathy of the community. The pall bearers were: Donald Burke, E. L. Chaney, Chas. W. Walker, A. Larroque, Whitney Romero and A. C. Bernard.

Dr. E. N. Landry, of New Iberia, was appointed Coroner in Dr. M. F. Morvant's place.



DR. J. F. O'LEARY

DIED: Dr. Hines C. Webb, Crowley, La. Dr.

Webb was a graduate of the Louisville (Ky.) Medical College, 1889. He died at the age of 60 years, on November 21, 1926, as a result of carcinoma of the gallbladder and liver.

DIED: Dr. Augustus F. Gates, Hammond, La. Dr. Gates was a graduate of the Medical Department of Tulane University of Louisiana, 1898; he died at the age of 54 years, on Feb. 3, 1927, as a result of a cerebral hemorrhage occurring some time ago.

DIED: Dr. Gerasine Richard, Opelousas, La. Dr. Richard was a graduate of the Medical Department of the Tulane University of Louisiana, 1896; he died at the age of 55 years, on Feb. 1, 1927, as a result of cerebral hemorrhage.

REMOVAL: Dr. Theodore Dimitry, to Teresita Apartments, 4335 St. Charles, at Napoleon Avenue.

The regular bi-monthly meeting of the New Orleans Gynecological and Obstetrical Society will

be held Thursday, April 7, 1927, at 8 p. m., at the Mercy Hospital. The profession is invited to attend.

1. Hernia funiculī umbilicalis with report of three cases, Dr. A. F. Hebert.
2. The Kielland forceps, Dr. E. L. King.
3. Rupture of the uterus after Cesarean section occurring in the same patient twice within a year, a case report, Dr. M. J. Gelpi.

TUBERCULOSIS AND PUBLIC ASSOCIATION OF LOUISIANA.

February, 1927.

With the close of the 1926 Seal Sale we are pleased to give to the friends of the tuberculosis cause a gratifying report of the campaign.

Fourteen million five hundred thousand seals were distributed in Louisiana. A few of our parishes have not yet reported, and, to date, our gross receipts are \$19,011.86; we expect to reach the \$20,000.00 mark of last year. From an educational standpoint also, we are proud of the results of the past year's work.

Most generous support was given our campaign by the press, business houses and others. More literature and posters were distributed than in any previous year, and thru the co-operation of the General Outdoor Advertising Association, 50 billboard posters were placed gratis throughout the State.

Most generous response was received from the parishes in which a mail sale was carried through the State office, and returns are still coming in from this source.

Letters on the subject of observance of Tuberculosis Sunday were addressed to 759 clergymen.

There was an enthusiastic gathering at our Annual Meeting, which was held at the Louisiane Restaurant, New Orleans, on January 26th. The same officers, Board of Directors and Executive Committee were re-elected for 1927. On this occasion we were fortunate to have present Miss Nora Reynolds, Field Child Health Secretary of the National Tuberculosis Association, who delivered a splendid address on "Child Health Education." Miss Reynolds remained with us two days, during which she visited the Normal School and attended conferences in the interest of Child Health. We have arranged to have Miss Reynolds spend two weeks with us in April on a Child Health Crusade in Louisiana.

At the meeting of our Executive Committee, held February 4th, the following were, on recommendation, elected to membership on our Board

of Directors: Rev. Arthur C. Evans, of Homer; Mr. A. H. Horton, of Coushatta; Mr. L. J. Babin, of Donaldsonville; Mr. B. C. Alwes, of Donaldsonville; Mr. Paul Canone, of Metairie Ridge; Mr. Allen Marsh, of Kenner, and Dr. D. L. Watson, of New Orleans.

At the same meeting, on recommendation, the following were elected to our Executive Committee: Dr. D. L. Watson, of New Orleans, and Mr. Allen Marsh, of Kenner.

Mr. F. D. Hopkins, Executive Secretary of the National, visited us for two days during the past month, consulting regarding the work of the past year and plans for the future. During his visit Mr. Hopkins addressed the Business and Professional Women of New Orleans, at a luncheon of that organization.

Mr. Jamieson Marshall, of the Institutional Advisory Service of the National, during a survey of Tuberculosis Hospitals throughout the country, visited our city; much helpful information was received from Mr. Marshall during his stay.

On March 31st, the fiscal year of the Association ends. Our books will then be audited and the Budget and Finance Committee will meet to arrange a budget and program for the year 1927. We are planning some intensive work in the State this year, and with the co-operation of our many interested friends and co-workers, we are looking for a banner 1927.

Our field organizer, Mrs. Fred C. Kolman, is again out in the field, looking into the local situations, giving her assistance in programs which our locals are preparing, and aiding in forming units of our Association.

The latest report from the United States Census Bureau shows that the greatest death rate in 1925 was from Heart Disease; Tuberculosis ranked fifth. In Louisiana the greatest death rate was from Heart Disease, Tuberculosis ranking third. There were 2,110 deaths from Tuberculosis in 1925.

Your attention is called to "Hygeia," which is probably the leading Journal of its kind in the world. It offers plain and practical information as to best methods for getting and keeping well. Subscriptions are \$3.00 per year; 25 cents per single copy. It is published by the American Medical Association, 535 Dearborn Street, Chicago.

If you are not receiving the Bulletin of the National Tuberculosis Association, we will be glad to send in your name for their mailing list, upon request by you.

A very interesting study course has been prepared by the National in co-operation with

the Woman's Foundation for Health. It is recommended for Women's Clubs, Parent-Teachers' Associations, Y. M. C. A.'s, W. C. T. U.'s, churches and similar organizations. The purpose of the study is to bring to the individual, thru group study, the fundamental principles of health-building, and the simple facts one should know about various diseases. Carefully prepared outlines of study, with ample suggestions for leaders and teachers, are given. Write us concerning the course, its scope, cost, etc.

The New York Supreme Court has decided that the Tuberculosis Christmas Seal, with its twenty years of service in behalf of humanity in this country, has established for itself a place where it is entitled to monopolize the field and has restrained a new organization set up in New York. "The Association for the Relief of Tuberculosis Patients," which proposed to sell a similar seal, from using in any way, in connection with Tuberculosis, a cross in any form of design, or conducting a seal sale method of collecting funds or contributions of any kind.

ANNOUNCEMENT OF THE PLANS OF THE MEETING OF THE AMERICAN ORTHOPAEDIC ASSOCIATION.

Los Angeles—Clinical Day, June 11th.

Yosemite Valley—Regular Scientific Program
June 13th, 14th and 16th.

San Francisco—June 17th and 18th.

Your President, Dr. James T. Watkins, and his colleagues of the Far West, especially the members of the Orthopaedic Clubs of Los Angeles and San Francisco, have formulated a most elaborate and attractive program for the entertainment of the members and guests of the Association. The plans in brief were issued as an extra leaflet mailed with the recent issue of the Journal of Bone and Joint Surgery, and all who have had a chance to read this announcement no doubt will make every effort to attend the meeting. It is probably safe to say that so fortunate an opportunity of seeing the glorious west may not again present itself in the lifetime of most of us, and it is therefore urged that all members and prospective guests of the organization plan their vacation accordingly.

It cannot be too strongly emphasized that our hosts must know at an early date the approximate number in attendance so that proper provision may be made for transportation and for their comforts in general. Our hosts urge that we bring our wives. In writing Dr. Watkins be sure to indicate how many there will be in your party and the number of ladies in the party.

For the benefit of those who do not have access to Dr. Watkins' preliminary announcement an abstract of his prospectus is herewith included. Among the unusual inducements offered are:

Greatly reduced railroad rates west of Chicago, both coming and going.

A private train, "The American Orthopaedic Special."

Two days at the Grand Canyon of the Colorado with privilege of retaining cars and staterooms.

Parts of two days in Los Angeles. Arrangements have been made for a "close-up" of the inside workings of the movie industry, an opportunity very rarely accorded strangers.

Housing of all members and guests under the roof of some centrally located hotel.

The "Orthopaedic Special" leaves Boston June 4th, arriving at Los Angeles June 10th. Evening entertainment by Los Angeles Club. June 11th is a clinical day.

Private train leaves Los Angeles June 11th, arriving at Yosemite Valley at 1:15 p. m. Sunday, June 12th.

Parts of three days, June 13th, 14th and 16th, will be devoted to the regular scientific program. Ample provision is made for visiting the various great falls about the valley. "The moon will be right, the water by reason of the snow melting in the high Sierras, will be at their greatest volume." One whole day will be devoted to visiting the Mariposa Grove of Big Trees—Sequoia Gigantis, the oldest living things on earth.

Special train to San Francisco.

Entertainment of members and guests on June 18th and 19th by the San Francisco Orthopaedic Club.

The estimated cost for the round trip from Boston, the starting point of the special, is \$388.84.

From San Francisco members can go straight home and be in Boston in 20 days from the time they started, or they can take any one of the three following scenic routes:

(1) Leave San Francisco June 19th over the Canadian Pacific Railroad, "avoiding the heat and prohibition", via Portland, with opportunity for the wonderful Columbia River drive, Seattle—Puget Sound trip, Vancouver—Fraser River sceneries—Lake Louise, Banff, Ft. Williams—Lake trip to Toronto, Thousand Islands—Montreal, Boston. Additional expense of this trip, exclusive of Pullmans and extra meals \$26.00.

(2) Yellowstone Park trip additional five days at total cost of \$54.00.

(3) Alaska trip. To Seward and back, 17 days, total additional expense, \$156.00.

In a final word Dr. Watkins again urges us to bring our wives and explains that it will probably be a long time before our organization takes another trip to the coast. As soon as your wishes are known, railroad representatives will call on you to arrange schedules, and once on the train you will be looked out for without your having to worry about arrangements.

The trip will be made at very low cost and in the good company of your colleagues. All of which should be sufficient inducement for you to decide now to make the trip and thus show our brethren on the coast that we appreciate their unusual efforts and the welcome which they so cordially extend.

F. J. GAENSLEN,
Chairman of the Program Committee.

Marquette University College of Hospital Administration has announced plans for the holding of the Hospital Clinical Congress of North America the week of June 20 to 24, inclusive, in Milwaukee.

The Rev. C. B. Moulinier, regent of the College of Hospital Administration, in making the announcement stated that Marquette University has been working for some time preparing for the congressional exposition. The plan is to set up in the Auditorium in Milwaukee complete working exhibits of modern hospital equipment and demonstrate their use under actual conditions. It will be the first attempt to institute a "working" clinic, demonstrating the most modern advances in hospitalization.

There will be four distinct departments: Hospital, Public Health, Safety and Research. The Congress will be vitally interesting to all persons interested in hospitalization—hospital superintendents, staffs, trustees, nurse superintendents, engineers, architects, dieticians, those interested in safety, first aid industrial hospitalization, public health leaders, welfare workers, both public and private.

Dean John R. Hughes of the College of Hospital Administration of Marquette University, has announced two special courses in hospitalization. The first, a short course of ten days duration, will be held from June 6 to June 17. The second, a summer course of six weeks, starts on June 27, ending August 6. These courses are to be conducted by instructors who have been selected from the different fields of hospital endeavor from all parts of the country and include men and women who are acknowledged leaders in their respective fields.

This curriculum has been endorsed by the American Hospital Association, by the officers of the American College of Surgeons, by the American Medical Association, and is therefore acceptable to all the national associations interested in the greater efficiency of nursing and all other technical service to the patient in the hospital.

The short course, preceding the clinical congress and the summer course immediately following, offers an unusual opportunity in hospital education.

The detailed program for the Clinical Congress will be completed within a short time and ready for publication. Information on the short and summer courses can be secured from Dean Hughes.

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examination:

Junior Medical Officer (Interne)—Applications for junior medical officer (interne) must be on file at Washington, D. C., not later than June 30, 1927.

The examination is to fill vacancies in United States Veterans' Bureau Hospitals throughout the United States, and in positions requiring similar qualifications.

The entrance salary in the field service of the Veterans' Bureau is \$1,860 to \$2,400 a year, without allowances, of \$1,260 to \$1,800 a year with quarters, subsistence, and laundry, the entrance salary within the range stated depending upon the qualifications of the appointee as shown in the examination and the duty to which assigned.

The duties, under immediate supervision, are to admit patients, take histories, make physical and mental examinations and record findings; to make ward rounds of inspection, note charts, record observations; to prescribe for minor ailments or for acute or emergency cases and to dispense medicine in emergency; to perform minor surgical examinations and to assist at major operations and in redressing; to administer anaesthetic; to make routine laboratory tests and analyses; to assist at outpatient clinics in dressing and in administering vaccines; to keep records, make up case histories, answer correspondence relating to patients, and compile statistics requiring medical training.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

BIRTH REGISTRATION IN MISSISSIPPI REACHES HIGH-WATER MARK.

Since the establishment of the Bureau of Vital Statistics of the Mississippi State Board of Health on November 1st, 1912, birth registration in the State has had its ups and downs, as one may see at a glance at a chart recently made which portrays registration of births from the year of 1912 until the end of the year 1926. Strange to say, the greatest "down" began with the very first year of Registration, and there was a steady and rapid descent from 41,000 births registered in 1913 to 37,000 registered in the year 1917. Between the year 1917 and 1921 there was a rapid rise in registration and the State was admitted into the U. S. Registration Area for Births after having registered 46,500 births in the year 1921. Then began another decline until the end of the year 1923, when there was a registration of a little over 43,000 births. During the past three years we are glad to note that the line on the chart rose rapidly until the high figure of 50,000 and more births were turned in for the year 1926.

Last year, the Bureau of the Census published figures showing that in 1925 Mississippi had the third highest birth rate in the Registration Area. We feel confident that with the great increase shown in 1926 over the year 1925 Mississippi will show the highest birth rate in the United States.

During the past three years four new factors have been inaugurated by the Bureau which have increased the interest in birth registration throughout the State of Mississippi, and no doubt are in a great measure responsible for increased registration:

1. Each new mother has been presented with an attractive certificate showing that her baby has been registered, and explaining the reasons why each birth should be recorded.
2. Much information has been disseminated through the press and through other agencies showing the importance of registration.
3. Field men have been sent out into the State to check registration and to make indictments against those who are neglecting their duty in the matter of recording births and deaths.
4. A check by the Bureau of the Census to decide whether or not Mississippi is to retain its place in the Birth and Death Registration Areas has greatly stimulated all agencies concerned in the registration of births and deaths in the State.

We might add also that the results of the recent war have indirectly stimulated the necessity of birth and death registration on account of a large number of disabled veterans who have been required by the War Department to furnish certified copies of birth and death certificates in order to strengthen their claims for compensation.

Vicksburg, the historic city, is looking forward with great pleasure to the entertainment of the members of the Mississippi State Medical Association in May. We hope to have much larger attendance than in 1923. It will be remembered that at that time there was registered one of the largest meetings the Association ever held.

In addition to the regular scientific program, many other forms of entertainment are being planned; a boat ride on the river and refreshments and entertainment while on the ride; numerous sight-seeing trips over the National Military Park, to be arranged at convenient hours, throughout the three days of the meeting; afternoon teas and other parties for the ladies; reception at the Country Club and a dinner dance at the Country Club for all members and their ladies.

The courtesies of the B'Nai Brith, the Elks, the Country Clubs, and of the Knights of Columbus, and the Young Men's Christian Association will be extended to visiting doctors and their wives.

Clinics will be held in each of the local hospitals each morning from seventy-thirty to ninety-thirty, to which all members are invited.

Scientific and Commercial exhibits will be placed in the lobby of the Y. M. C. A.

The general scientific session will be held at the Y. M. C. A. The ear, eye, nose and throat section will meet at the auditorium of the Carnegie library. The evening session to which the public is invited will be held in the auditorium of the Carr Junior High School.

Committees for Arrangement for State Association Meeting.

General Chairman—Dr. George M. Street.

Clinics—Dr. W. H. Parsons, Chairman.

Commercial Exhibits—Dr. S. Myers, Chairman.

Scientific Exhibits—Dr. E. F. Howard, Chairman; Dr. H. I. Gosline.

Convention Halls—Dr. B. B. Martin, Chairman.

Hotels and Rooms—Dr. J. A. K. Birchett, Sr.,

Chairman; Dr. A. J. Podesta, Dr. D. A. Pettit, Dr. J. A. K. Birchett, Jr

Registration—Dr. L. J. Clark, Dr. E. F. Howard.

Reception and Welcome—Dr. H. H. Haralson, Chairman; Dr. H. W. Weimar, Dr. D. S. Smith, Dr. D. P. Street, Dr. G. Y. Hicks, Dr. L. J. Clark, Dr. L. S. Lippincott.

Finance—Dr. S. W. Johnston, Chairman; Dr. I. C. Knox, Dr. A. Street, Dr. H. H. Haralson.

Entertainment—Dr. I. C. Knox, Chairman; Dr. G. P. Sanderson, Dr. C. J. Lewis, Dr. S. J. Harper, Dr. L. S. Lippincott.

A special effort is to be made to have a large and interesting scientific exhibit this year at the meeting of the State Association, and the Committee is inviting all members to place exhibits on subjects in which they are interested and have done special work.

Dr. D. S. Johnson, Health Officer of Hinds County, has been at the Mississippi State Sanatorium for several weeks taking the course offered in Diagnosis of Disease of the Chest which is being offered to the physicians of the State through the courtesy of the Board of Trustees of this institution.

Hinds County is one of the counties which makes special arrangements at all time that their health officer may avail himself of any opportunity which will make for a better condition of health in the county.

Dr. W. S. Polk of Union, and Z. E. Crawley of Sumrall, are also availing themselves of the advantage of this course at Sanatorium.

Numerous requests for information regarding this course have come from various sections of the State, and so hearty has been the response from the physicians of the State that it is estimated that the schedule will be entirely filled at Sanatorium by an early date.

All at Sanatorium sympathize with Dr. B. B. O'Mara in the very recent tragic death of his wife, Mrs. Mamie Gray O'Mara.

The South Mississippi Medical Society at its recent meeting in Hattiesburg elected the following officers: President, Dr. A. M. Harrelson, Stringer; vice-president, Dr. J. G. Gardener, Columbia; secretary-treasurer, Dr. R. H. Foster, Charity Hospital, Laurel.

The following program was announced for the March meeting held in Laurel:

"Diagnosis, Treatment, and Management of Malaria," Dr. C. C. Bass, New Orleans, La.

"Gonorrhoea in Women," Dr. H. W. E. Walther, New Orleans.

"Disabilities of the Hip," Dr. F. H. Hagaman, Jackson.

"Legal Medicine," Hon. Ellis Cooper, Attorney, Laurel.

"Dentistry and Medicine," Dr. G. F. Haynes, Dentist, Laurel.

"Reminiscences of a Jones County Doctor," Dr. J. R. Kittrell, Laurel.

Dr. J. R. DeVelling of Laurel has moved away but has not yet announced his future location.

The Laurel Infirmary has been closed.

The new Methodist Hospital at Hattiesburg is about complete and will shortly be opened.

Dr. W. W. Crawford of Hattiesburg has recently recovered from a severe illness and is quite well again.

The Issaquena-Sharkey-Warren County Medical Society at its regular meeting, Tuesday, March 8, presented the following program:

"Laboratory Service in a Civilian Hospital," Dr. H. I. Gosline.

A paper, Dr. A. J. Podesta.

"X-ray Diagnosis of Gall Bladder Diseases" (Illustrated), Dr. G. M. Street.

"Discussion of Medical Ethics," Dr. E. F. Howard.

Reports were made by the committees having in charge the coming meeting of the State Medical Association on May 10-11-12.

The Tate Medical Society announces the following officers for the year: President, Dr. Wm. R. Gilbert, Yazoo City; vice-president, Dr. W. D. Smith, Senatobia; secretary and treasurer, Dr. J. S. Eason, Coldwater.

The Central Medical Society at its February meeting had papers read by Drs. Day and Raner

of Yazoo City, W. W. Davis of Pelahatchia, and G. W. F. Rembert, Jackson.

Dr. G. W. F. Rembert and Dr. N. C. Womack attended the meeting of the American College of Physicians at Cleveland, Ohio.

The Central Medical Society appointed a committee to attend the next meeting of the Warren County Medical Society at Vicksburg to offer assistance in arranging for the meeting of the State Association.

WHY EVERY DEATH SHOULD BE REGISTERED PROMPTLY.

That there may be available, complete and accurate information as to deaths of all human beings, with dates of deaths and causes of deaths, to the end that preventable causes of death may be eliminated and human life lengthened;

That the settlement of pensions and life insurance may not be delayed from the lack of proper evidence of the fact and the cause of death;

That titles and rights to inheritance may not be jeopardized by the failure of records;

That the courts and other agencies may be supplied with certificates of death, or certified copies, to establish necessary facts;

That all health agencies—national, state, municipal and private—may know immediately the causes of death that they may act promptly to prevent epidemics;

That the success or failure of all measures attempted in the prevention of diseases may be accurately determined;

That individual cities and localities may learn their own health conditions by comparison with other communities and determine thereby the wise course of public health activity;

That the homeseekers and investors may be guided in the selection of safe and healthful locations.

A prompt report of a death is more apt to be an accurate record than a report that is delayed. The law requires that a death certificate be filed with the local registrar and a burial or removal permit obtained from the registrar before any disposition is made of the body.

BOOK REVIEWS

Pernicious Anemia: By Frank A. Evans, M. D.
Baltimore: Williams & Wilkins Co. 1926.

This little book represents a very satisfactory and adequate review of a puzzling and up to now hopeless condition. The author draws from his own rich experience as well as from that of others in his analyses of cases upon which he suggests conclusions as to diagnosis, prognosis and treatment.

It is unfortunate that the recent experiences of Minot and Murphy, *et al.*, in producing encouraging improvement in cases of pernicious anemia by the use of the high protein diet were published too late to be included in so excellent a book as this one. If the promises at present held out by this mode of treatment prove to be well founded, we may expect a new series of investigations which may lead to a better explanation of the disease and thus to even more promising results. If this should be the case, subsequent editions of Dr. Evans' book will be extended to include them.

I. I. LEMANN, M. D.

Recent Advances in Physiology: By C. Lovatt
Evans, D. Sc. (Lond.), M. R. C. S., L. R. C. P.,
F. R. S. (Second edition.) Philadelphia: P.
Blakiston's Sons & Co. 1926.

This book is characterized by its author as "an elementary text-book of *advanced* physiology," and deals, as its title implies, with those branches of the subject in which, during recent years, most interest has been taken and the greatest advances have been made. Although intended primarily for the student who has completed an ordinary course in physiology and who desires a more thorough knowledge in that field, it should also prove of exceptional value to the physician who wishes to find a not too lengthy account of particular phases of the subject. The reviewer knows of no volume which presents, in a few pages, so much physiology, at once so clearly, briefly, and authoritatively.

The chapters dealing with the blood should prove useful to the physician. In addition to a discussion of the cellular elements, of the transport of gases, and of the buffers of the blood, the author includes brief descriptions of certain recent methods, *e. g.*, for the determination of the relative volumes of the corpuscles and plasma, for the hydrogen ion concentration of the blood, and for bilirubin.

Perhaps the most valuable chapter from the physiologist's viewpoint, is that upon the conditioned reflexes. It is a section which may also prove of interest to the psychiatrist. Much of the original literature on the conditioned reflexes has

never been translated from the Russian, and Professor Evans was fortunate, in the preparation of this chapter, in securing the co-operation of Dr. Anrep, a distinguished pupil of Pavlov. More intimate knowledge of this work of the Russian school, taken in conjunction with the work of Henry Head, may ultimately render intelligible the physiological mechanisms of certain psychotic states, and dispel much of the repugnance which some may feel toward "psycho-therapy,"—a repugnance largely engendered by the putative vagueness of the psychological conceptions. The interested reader should also consult "Instincts and the Unconscious," by W. H. S. Rivers.

Professor Evans' chapters upon tissue oxidations and muscular contraction will scarcely interest the medical practitioner; his discussion of the mechanisms of postural reflexes and of the functions of the labyrinth may be more pertinent; while his exposition of our knowledge of insulin and its action should be of considerable value.

The discussion of the output and work of the heart contains little which is likely to be of immediate clinical interest. The chapter on the capillary circulation, on the other hand, should repay study. Among other things, it includes the evidence upon which Krogh's demonstration of the independent contractility of the capillaries is based; some of the consequences of this contractility as related to haemodynamics; and a very brief discussion of surgical shock. Unfortunately Professor Evans' book was published too early to incorporate the recent observations of Anrep and Segall upon the nervous control of the coronary circulation. These authors found, in a series of exceptionally well-controlled experiments, that, in the dog at least, and contrary to some previous evidence and rather general opinion, the constrictor fibers to the coronary vessels lie in the vagus; the dilators in the sympathetic. The bearing of this finding upon sympathectomy in angina pectoris is evident.

RICHARD ASHMAN, M. D.

Materia Medica and Therapeutics, Including Pharmacology and Pharmacology: By Reynold Webb
Wilcox, M. A., M. D., L.L. D. (Eleventh edition.) Philadelphia: P. Blakiston's Son & Co. 1927.

The eleventh edition of Wilcox's book on materia medica and therapeutics follows much the same general characteristics as previous editions and maintains the same high standard of excellence. As the book is made up, there are but few faults

to find with it. It does seem, however, that the necessity for such a book does not exist nor should there be the same call for it as at the time the first edition appeared, so fundamentally has the concept of the teaching of *materia medica*, pharmacology and therapeutics changed. Several hundred pages devoted to the description of drugs seem to the reviewer unnecessary for a student text-book on therapeutics. It seems a waste of time and energy to require or to expect the overburdened student to learn the description, source and purities of a very large number of drugs of which, at most, he will use a very small per cent in his practice and of this small number he will use, it is extremely doubtful if he will ever become familiar with the general characteristics of most of them. How much better it would be to teach the pharmacology of a few drugs of known definite therapeutic value than to attempt to cover the whole field of *materia medica*, therapeutics, pharmacy and pharmacology.

J. H. MUSSER, M. D.

The Surgery of Gastro-Duodenal Ulceration: By Charles A. Pannett, B. Sc., M. D. (Lond.), F. R. C. S. (Lond.). London, Oxford University Press 1926.

This treatise is placed before the reader to give the author's personal experience and results with the treatment of gastric and duodenal conditions. Acute conditions are only mentioned in passing, as to occurrence, when and where found.

The initial chapter deals with pathology, showing the macro- and microscopical findings in gastric and duodenal ulcer, as also the relation of carcinoma to gastric ulcer. The author speaks of etiological factors, *i. e.*, disturbed innervation, vascular changes—bad innervations and infections, all capable of producing ulcers, but not characteristic as the true ulcers.

Under the heading of symptomatology, both ulcers are discussed with reference to pain (mechanism), test meals and x-ray interpretation.

Dealing with treatment, gastric ulcer is discussed in general. Principles that are advocated are first, thorough medical treatment sought before surgical intervention; second, if exploration is decided upon, thorough search of the stomach, as ulcer in early stage may be overlooked.

The surgical intervention is based on two principles: First, altering the physiological condition of stomach so the tendency to heal is influenced; second, excision of ulcer. The first class includes gastro-jejunostomy and jejunostomy. The second class includes the various methods of partial gastric resection. The explanation of relief from

gastro-jejunostomy is explained in the reduction of acidity or alteration in the mechanism of the stomach. Pyloroplasty (the two methods, Heinecke, Mickulicz and Finney) are devised to set aside the sphincter action of the pylorus. Jejunostomy is mentioned in this chapter, but is discussed at length in another. Local wedged-shaped excision is shown to have its disadvantages in disturbance of motor function (innervation).

Under the heading of excision of pyloric region of stomach the several methods are discussed as follows:

Pean's or Billroth I: Resection of pylorus with axial union of duodenum, open end of stomach partially closed.

Billroth II: Pylorectomy, plus a gastro-jejunostomy.

Moynihan, or a modified Polya: End of duodenum closed, open end of stomach anastomosed with lateral duodenum.

Chapter five deals with treatment of gastric ulcer, indications and results of particular operative procedures, followed by a discussion of gastro-jejunostomy as to mortality. The author claims that gastro-jejunostomy is the operation of choice in inexperienced hands and in ulcer near the pylorus, but the majority favors excision in ulcer elsewhere in the stomach. Pyloroplasty is again discussed, quoting Grey Turner for the year 1912 and also Horsley, Finney and Friendenwald. Gastric resection is next considered, naming its advocates and their reasons therefor. Foremost wedged-shaped excision alone gives only temporary relief. Walton combines wedged-shaped excision with gastro-jejunostomy. The Balfour operation (excision with cautery plus gastro-jejunostomy) and the sleeve resection are discussed with their advocates and statistics. Under the heading of removal of pyloric segment the operations, as the Pean, etc., are again gone into.

The next subject is the treatment of hour-glass stomach. The summary of the chapter deals with the author's experience in treating 44 cases of gastric ulcer.

Chapter six is devoted to the surgical treatment of duodenal ulcer; as in the case of gastric ulcer, a fair medical trial is advocated at the onset. In considering surgical intervention, those favoring gastric jejunostomy are Moynihan, Sherin, Walton, Balfour, etc., and those advocating partial duodenectomy are Finisterer, Van Haberer, Clairmont and Novak.

The late symptoms following a gastro-jejunostomy for duodenal ulceration are cited as due to: (1) Persistence of original ulcer; (2) hemorrhage;

(3) perforation; (4) gastro-jejunal ulcer. The remainder of the chapter gives the percentage mortality of both procedures. When the lesions are extensive it is advisable first to try a gastro-jejunostomy and sometimes a jejunostomy, if these fail, then a resection according to the method of Finsterer is advisable. With regard to perforation of duodenal ulcer, the age (20-40), location (anterior wall), size (small), then the clinical features, localization of inflammatory process and the treatment are reviewed. Statistical study favors operation, with perforation, within the first twelve hours, though after twenty-four hours, prognosis improves somewhat, explained by the temporary plugging of the hole. The methods of operation are simple suture or plus suturing omentum over wound, suture plus gastro-jejunostomy and resection of perforated ulcer.

The chapter that follows includes hemorrhage, its source, clinical features and treatment. Many authorities, as Sherren, Finsterer recommend immediate intervention after the primary shock has passed.

Chapter IX discusses technique of operation, *i. e.*, preparation of the patient, anesthesia and different types of operative technique. Pannett prefers general anesthesia, on the grounds of the uncertainty of local analgesia. The preferred incision in the abdominal wall and in the stomach, and the suture material are also brought into this chapter. The sleeve resection of the stomach Pean's and Moynihan's operations and duodenectomy technique are described with a concluding paragraph on post-operative care.

The concluding chapter deals with post-operative complications, as: chest complications (pneumonia, massive collapse of Pasteur); hemorrhage; vomiting (anesthetic, viscous circle, strangulation of anastomosed loop, obstruction of outlet of stomach in Pean's operation and acute dilatation of stomach); internal hernia; separation of the viscera; diarrhea; gastro-jejunal ulcer; injury of bile and pancreatic ducts in duodenectomy.

In discussing gastro-jejunal ulcer, several authorities are quoted as to the percentage of occurrence (2-18%). The method of treatment advocated depends on whether the primary duodenal lesions are healed. If so the anastomosis is released, stomach and jejunal openings closed, and the intervention is completed with a pyloroplasty. If the lesion is not healed, a Polya operation is advised.

The book is a complete resumé of the surgery of gastric and duodenal ulcer with a tendency to as conservative radical surgery as is possible for the patient's permanent cure.

EMILE BLOCH, M. D.

Transfusion of Blood: By Henry M. Feinblatt, M. D. Illustrated. New York, The Macmillan Company. 1926.

This volume, the first of its kind devoted entirely to blood transfusion is, as its author intends it, a critical survey of the subject. It is a thorough, composite treatise beginning with an historical resumé and containing separate chapters on the physiology of the blood, the blood groups, indications, dangers and untoward results, methods, auto and exsanguination transfusion and the transfer of blood in children.

The subject matter is presented in a clear, easily readable manner and the text is conveniently arranged for reference. This valuable therapeutic accessory is brought from its earliest conception to its present day efficiency: a description is given of the more accepted methods with comments on their respective merits and shortcomings. The chapter on untoward results is particularly illuminating as well as the one on indications which in recent years have become more numerous and diversified.

The book is of unquestionable value, particularly to surgeons, although the internist will find much of interest in its pages.

WALDEMAR R. METZ, M. D.

Manual of Normal Physical Signs: By Wyndham B. Blanton, B. A., M. A., M. D. St. Louis, C. V. Mosby Co. 1926.

This would serve as a splendid index to the study of physical diagnosis, if this is the author's intention. The subjects dealt with are for the most part enumerated and no attempt is made to go into detail. As a result, very important points are omitted. The book is written in a very simple and easily comprehensible style. There are some excellent paragraphs of topographical anatomy contained in the volume.

HAROLD ABEL BLOOM, M. D.

Pediatric Nursing: Including the Nursing Care of the Well Infant and Child: By Gladys Sellew, M. A., B. S., R. N. Illustrated. Philadelphia and London, W. B. Saunders Company. 1926.

Miss Sellew's book on pediatric nursing is the most valuable contribution that has been made to the literature of nursing for the past several years. It is written by a nurse, from the nurse's standpoint, and is destined to become the standard text-book on the subject in schools of nursing. The author's twenty year's experience as nurse and social worker has given her an excellent groundwork on which to prepare the book.

The text is divided into two parts. Part I is devoted largely to the hygiene and care of the well infant and child and the subject is presented in a concise and well-written manner that will relieve the mind of many a weary general practitioner and fond mother. Part II contains sixteen chapters on nursing procedures and it teems with necessary and useful information, brought up to the minute and offered in a readily accessible form. Miss Sellew has wisely made free use of bold-faced type and italics in designating her paragraphs, and sub-sections. The book is of convenient size and not too long; the subject is covered in 435 pages.

FRANCIS M. MUNSON, M. D.

Medical Gymnastics and Massage in General Practice: By Doctor J. Arvedson. Translated and edited by Mina L. Dobbie, M. D., B. Cr. 2d ed. Philadelphia, P. Blakiston's Son & Co. 1926.

This book does not appeal to one as a textbook for ordinary use among students, either of medicine or of physical therapy. It is far too advanced a book for any to use except those who are graduates, and especially those who are graduates in medicine. As a book on medical gymnastics and massage, it goes too much into detail as regards pathology and therapeutic treatment. One would have to be a graduate in medicine fully to appreciate the many details describing the various diseases, before the massage treatment is taken up. The recommendation which is made in several instances of "massage over the joints," in my opinion, should be condemned, especially of those cases of arthritis or other inflammatory disease. It is a well known fact that massage over joints increases the irritation and, therefore, aggravates the disease. This is especially true in chronic arthritis.

The various remedial exercises are not described in detail and are very hard to understand, even by those who are versed in such exercises. This appears to be a very great objection to the book, as the reader must refer to Kleen's massage and medical gymnastics in order to understand the details of these exercises.

A further objection to the book is the fact that it offers massage and medical gymnastics as a panacea for almost every known disease. It is certain that in many of the diseases taken up the treatment outlined would surely not relieve the condition, and, in all probability, would increase the symptoms. The book undoubtedly contains a great deal of valuable information, but does not appeal as one which should be recommended to any except those who are very far

advanced in physical therapy and are, therefore, capable of selecting the valuable suggestions offered.

JOHN T. O'FERRALL, M. D.

Physiology and Biochemistry in Modern Medicine: By J. J. R. Macleod, M. B., LL.D. (Aberd.), D. Sc. (Tor.), F. R. S. 5th ed. St. Louis, C. V. Mosby & Co. 1926.

Anyone who has ever heard Dr. Macleod present a subject at a medical meeting, would expect him to perform only a thorough and competent test, and as an example of intelligent book writing, this last revision of this standard text-book is par excellence.

Physiology is still replete with theories, but unless we at least hold a tenable theory, a great deal of our modern diagnosis and therapeutics would have to be considerably altered. Dr. Macleod presents each side of every question briefly and clearly, but like a true teacher invariably ends each discussion with a well-digested theorem of his own, which he would recommend to his students as the *most probable explanation*. He thus avoids leaving you with a number of partly dissociated ideas to choose from. In this connection the number of references given at the end of each chapter is noteworthy.

Physiology is something more than mere biochemistry. It has struck me rather forcibly that some of the other texts on physiology should be relabelled "bio-chemical reactions."

As is also to be expected, the chapters on digestion, assimilation and nutrition are particularly replete with up-to-the-minute information. It would pay an internist to read the latest ideas and discoveries quoted briefly and clearly here. Insulin and its mode of action and over-action are beautifully portrayed. The sections on cardiovascular disturbances, basal metabolic changes and the physiology and chemistry of shock are likewise thoroughly handled.

Thus, the entire book seems to be written by a physician and for a physician, with the practical application of every physiologic fact stressed, even to the proper technic and when to administer oxygen to the pneumonia patient.

F. M. JOHNS, M. D.

Psychological Healing: A Historical and Clinical Study: By Pierre Janet. Translated from the French by Eden and Cedar Paul. In two volumes. New York, The Macmillan Company. 1925.

Professor Janet's treatise is interesting, practical and timely. The study is presented against

an historical background in a manner that makes it useful to the busy practitioner and to the teacher of clinical medicine. He discusses miraculous healings, medical moralization and philosophical methods of treatment, including under the latter heading a dispassionate exposé of the charlatanism of Mary Baker Eddy and "Christian Science." The chapters on suggestion and hypnotism and on rest and isolation make interesting reading for the physician and for the layman.

FRANCIS M. MUNSON, M. D.

Cavernous Sinus Thrombophlebitis and Allied Septic and Traumatic Lesions of the Basal Venous Sinuses: A Clinical Study of Blood Stream Infection: By Wells P. Eagleton, M. D. New York, The Macmillan Co. 1926.

This monograph, written much in the style of Eagleton's monograph, "Brand Abscess," emphasizes the clinical phase of the subject, and particularly, he says, the following considerations in the diagnosis and treatment of infective cavernous sinus disease:

"(1) If the diagnosis is to be made early, which it must be, if the surgical attack is to have slightest chance of success—cavernous sinus phlebitis should be regarded as a group of diseases.

(2) For early diagnosis it must be appreciated that the classical symptoms of exophthalmos, edema of the lids, and chemosis may or may not be present, depending on whether the sinus is suddenly and completely obstructed by an acute septic process, or gradually obliterated by a compensatory thrombus.

(3) An early diagnosis in the cases of slow involvement without classical manifestations of exophthalmos (the most promising type for surgical intervention) necessitates a careful study of the following mechanical factors which determine the symptomatology:

- (a) The path of entrance of the infection into the sinus.
- (b) The part of the sinus first attacked; and
- (c) The alterations in the adjacent tissue that occur as a result of the venous anastomosis of the sinus.

(4) The necessity of treating the phlebitis not only by drainage, but by placing the inflamed venous radicle at rest by ligation of the common or internal carotid artery."

Case histories of 38 cases are given and 25 of these were observed personally by the author. Twenty-one of the author's cases were fatal and from these, twelve autopsy reports are included.

Four cases recovered, three of which were verified by operative findings although apparently in only one was the cavernous sinus actually opened at operation.

The reader would have a much clearer mental picture of cases if the ages of patients had been included in the histories.

Serum therapy and vaccine therapy are discussed. In transfusion the author attempts to add specific properties to the blood by immunization of the donor either by the use of stock vaccines or, when time permits by the use of an autogenous vaccine from the patient.

An extensive bibliography is appended. The author has decidedly made a contribution to the study of vascular disease.

H. KEARNEY, M. D.

PUBLICATIONS RECEIVED.

D. Appleton & Company, New York: "A Text-book of Bacteriology," by Hans Zinsser, M. D. "Preventive Medicine and Hygiene," by Milton J. Rosenau.

W. B. Saunders Company, Philadelphia and London: "Health Supervision and Medical Inspection of Schools," by Thomas D. Wood, A. M., M. D.

P. Blakiston's Son & Co., Philadelphia: "Clinical Neurology," by Prof. Dr. Hans Curschmann, translations with changes and additions by Edward A. Strecker, A. M., M. D., and Milton K. Meyers, B. S., LL. B., M. D.

J. B. Lippincott Company, Philadelphia and London: "Four Thousand Years of Pharmacy," by Charles H. LaWall, Ph. M., Phar. D., Sc. D., F. R. S. A. "International Clinics," Vol. 1, thirty-seventh series 1927.

Lea & Febiger, Philadelphia: "Modern Medicine," edited by Sir William Osler, Bart., M. D., F. R. S., re-edited by Thomas McCrae, M. D. Vol. IV. "Mineral Waters of the United States and American Spas," by Wm. Edward Fitch, M. D.

The MacMillan Company, New York: "The Modern Practice of Pediatrics," by William Palmer Lucas, M. D., LL. D.

The Williams & Wilkins Company, Baltimore: "Outlines of Common Skin Diseases," by T. Caspar Gilchrist, M. D.

Miscellaneous: "Proceedings of the 19th and 20th Conferences of the American Association of Medical Milk Commissions." "This Business of Operations," by James Radley, with foreword by J. M. Withrow, M. D. "Early Days of the Presbyterian Hospital in the City of New York," by David Bryson Delavan, M. D. "Saving Eyesight after Mid-Life," by John Herbert Waite, M. D., S. M.

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THE ALTRUISM OF ORGANIZED MEDICINE*

By S. M. BLACKSHEAR, M. D.,

President, Louisiana State Medical Society

NEW ORLEANS.

Ever since the days of Hippocrates the institution of organized medicine has carried on its work with steady progress towards scientific perfection, having devotion to the interests of others as its everlasting incentive. Schisms, cults and heresies have come and gone, in apparently tireless, and certainly tiresome procession, through these many ages, but the temple of regular nonsectarian medicine still stands unshaken like the rock of Gibraltar. That an institution can survive the ravages of the past centuries is proof that it is built on a firm foundation with truth and loyalty as its main pillars and altruism its keystone.

It is an indelicate and offensive practice for an individual and even an organization perniciously and persistently to seek self-glorification and praise, assuming as it were a Pharisaical, holier than thou attitude. It is quite another and a defensible, nay, admirable trait to remove doubts and suspicions from one's self even at the expense of exposing one's virtues.

The reserve and conservatism which has always been an earmark of organized medicine has frequently been misunderstood. The finger of suspicion has occasionally

been pointed in our direction and an over-developed reticence has been slanderously pictured by non-believers as a terrible mask, behind which lurked the black art of mystery, chicanery and deceit.

The remarkable impetus given to medical achievements and organization during the last half century has reawakened public interest and public trust and I venture to say that, in spite of some doleful observations and direful prophesies, never before in the history of human kind, has true scientific medicine had a stronger or more just hold on the sympathies and respect of the people. The names of Jenner, Pasteur, Koch, Lister, Murphy, Carrel and a host of others are the bonds we offer as collateral for a continued public confidence; but we cannot expect to live and prosper as an organization on the interest of these bonds. We have work of our own cut out for us.

There are many projects of an altruistic nature engaging the profession of medicine both collectively and as individuals. We owe it to the public as well as to ourselves, that from time to time information telling of this work must reach the laity, and it is our duty to see that this information is furnished in a safe and sane way, and at the proper time. Quite often, in the public press, and not infrequently in medical journals, news of a misleading, if not incorrect, nature is propagated. The newspapers are not to blame, as most frequently they seize on what they believe to be authentic facts, and in good faith hasten to

*Read before the Louisiana State Medical Society, New Orleans, April 26, 1927.

publish them, lest they be "scooped" by a rival paper. With the remarkable facilities now available for the collection and dissemination of news, no battle of New Orleans could wait weeks or even days before its cannon fire would be reverberating around the globe.

Publicity has formerly been a tabooed topic in medical circles and it has been a hard job to wean the profession from its solitary diet of medical pabulum but, with the changing and already muchly changed human psychology, we cannot longer maintain our monkish solitude. We must realize these changes and adapt ourselves to them. We must be more confidential with the public or they will not be more confident in us.

Education has progressed enormously along medical lines and we must not forget that it has made great strides in other lines including "reading and 'riting and 'rithmetic". In some neighborhoods where, three score years ago the circuit rider performed the office of reading the newspaper for the benefit of the community, whole families are now doing crossword puzzles and answering "ask me another" problem, with pleasure and ease. Radios carry the news to the furthestmost hamlets on wings of lightning, and illiteracy is fast disappearing from all parts of the country.

Exercise develops organic activity and growth, and the mental status of the people has reached such a stage that we hope soon that we might truthfully say that this is not merely a civilized nation, it is an educated one.

Education creates an unquenchable desire for more knowledge. This is especially true about medical matters, and this desire must be fulfilled by those most competent and most responsible for doing so—the members of organized medicine. The profession is waking up to the fact that the judicious use of publicity is a powerful instrument for doing good, and this is why some state organizations have created cen-

sorship committees whose function it is to look after publicity work.

Though Cordelia's voice was ever soft and low, an excellent thing in woman, it was necessary for some of her modern sisters to raise their voices an octave or more before they became enfranchised, and abolished the harems of Turkey, and otherwise made their influence felt far beyond the wildest dreams of a few decades ago.

It would be easy for us to say it is no more our duty to try to protect humanity against the exploitation of its sick and ailing, by charlatans, than it is the duty of an honest merchant to run to cover all the dishonest peddlers and swindlers, and let it go at that. "Let the galled jade wince, my withers are unwrung." But we feel a higher and more sacred duty, due to the confidence humanity has reposed in us as the guardians of its health, and a faithful few are always ready to respond to every call to protect our sacred charge.

The laity cannot be blamed for its lack of interest in these affairs as they have not been acquainted with the situation. They do not know that the doctors, on account of the disordered state of things medical, which were fraught with discouragement to themselves, and injurious results to their patients, asked the State Legislature to grant them the right of voluntary incorporation, for the purpose of mutual improvement and promotion of the public good. They do not know that a prospective medical student must give evidence of more than a high school education, before he is permitted to take up the study of medicine and that he must take four or five years training in a high class medical school, which is equipped with laboratories, lecture rooms and clinics, and usually one or two years internship in a standardized hospital, before he faces the State board of medical examiners to qualify as a healer of the sick. Nor can they realize what an arduous task, and how expensive it is, to equip a man or woman for this noble calling, where, however ambitious he or she

might be, or whatever financial or influential backing, he or she might have, quite a few fail to make the grade.

They may know that such blessings as antitoxin for diphtheria, insulin for diabetes, inoculation against hydrophobia, scarlet fever, typhoid fever and so on ad infinitum, do exist, but they do not dream that these discoveries were accomplished through the long and continued blood-sweating labor of some member of the medical profession with no other reward than that obtained from the satisfaction of work well done.

They are blessings like the sunshine or the rain, but like Topsy they had no birth, they just grew. Under ordinary circumstances the profession is content to let the public mind remain in this indifferent state of bliss; but when things have come to such a pass that uneducated men and women can equip themselves within the course of a few weeks, without any preliminary education for matriculation, and with a diploma guaranteed to any aspirant who can pay the fees, to become universal healers of all human ills by manipulating segments of the backbone; or when others claim that all maladies are caused by some misdirected thought and can be cured by merely changing the course of that thought, it is time that the public should be reminded of the truth, and, without doubt, organized medicine is the proper source from which this truth should come.

Scientific medicine does not promote any theory or principle to the exclusion of established facts. It aims by the utilization of all available knowledge, to determine the cause of disease, and then by the use of all intelligent methods to conquer it. It denies that any manipulation of the spine may cure diphtheria or that any manipulation of the mind may correct a broken leg. We advocate massage in cases where it is indicated and we use suggestions where troubled minds may be eased and imaginary ills dispelled. But we steadfastly deny that the dogmatic curealls promoted by the

various cultists can cure an organic, diseased condition of the body.

Unless a so-called healer possesses a knowledge of the fundamental branches of medicine he is in the position of one trying to solve problems in higher mathematics without having even learned to count.

The chiropractors claim that they do not make a diagnosis, nor practice medicine or surgery, when they are applying for admission to practice in a state but it has been proven that in every state where they have been permitted to obtain entrance they have invariably been found prescribing medicine and attempting surgery, which shows that their intention is to get into the practice of medicine by means of the back door, without preparation, thus circumventing the intelligence, labor, and expense necessary to qualify as a regular physician.

It is undisputed, in fact they advertise, that the school of chiropractic boasts of its course in salesmanship. Imagine a self-styled school erected for the purpose of training men and women to be healers of their sick fellow beings, having as one of its most important branches of instruction, a course in salesmanship. There is a vast difference between a commercially intended department of salesmanship for the exploitation of personal interests and individual business, and the imparting of information by an established profession engaged in the earnest endeavor of bringing about longer life and greater happiness, through better health to human kind.

Among the most important purposes of organized medicine, are the education of the public in preventive medicine and hygiene, and making the members of the medical profession most capable of rendering service to humanity

We have no personal favors to ask of the public, and seek no selfish ends. We desire only to promote the health of the community and to prolong the life of the

individual. With this in view, organized medicine has been promoting a widespread campaign for periodic health examinations.

We would much rather be able to prevent illness and, where possible, stamp it out entirely as has been done with yellow fever than to suffer with our patients who are stricken with disease. It is a known fact that countless thousands needlessly suffer and prematurely die due to the lack of timely recognition of curable conditions.

The same attention of inspection has not been given to the human machine as is universally accorded to boilers, elevators, fire escapes and such other inanimate objects. Indeed the lower animals have been more jealously protected.

I feel that in my official position I am justified and may be excused for calling the attention of the medical profession and the public to their interlocking duty of periodic health examinations.

The power of advertising is a wonderfully strong and admitted influence. It is not only the privilege but the duty of the medical profession, to use this tremendous force to spread the doctrine of "keeping well" to the world. I am an earnest advocate of this kind of publicity as my previous remarks must have indicated; but I wish here to sound a note of warning.

Let not our enthusiasm carry the pendulum too far lest we fall into the same pitfalls which tripped, nay often engulfed, some of the groups I have reluctantly been compelled to call attention to. All public information must come from authorized sources in the ranks of organized medicine, and must never be used as a means of personal or group aggrandizement.

If I have done no more than to remind the people and the profession, of the altruistic tenets of non-sectarian medicine I feel that my work has been well done, and I look with promise for the tomorrow of enlightenment and progress.

THE RELATION OF THE RETICULO-ENDOTHELIAL SYSTEM TO THE SPLENOMEGALIES ASSOCIATED WITH NON-SPECIFIC OR SECONDARY ANAEMIA.*

ALLEN O. WHIPPLE, M. D.,
NEW YORK CITY.

Since choosing the subject of this paper for this evening's discussion I have regretted my temerity and fear that ere I am finished you will share my feelings. For the title of this presentation demands a discussion of the spleen, splenomegaly with

Preceding the oration, the following remarks were made by the President, Dr. Maurice J. Gelpi:

This, as you know, is to be the first Stanford E. Chaillé Memorial Oration. The suggestion for this oration came from my predecessor in the chair, Dr. Urban Maes, and was accepted by the Board in the hope that every year such a lecture as this one might be read in order to perpetuate the memory of the great teacher, Dr. Chaillé. Not that this Society can ever forget Dr. Chaillé, but rather as a demonstration of our lasting and continued respect and admiration. The oration was to have been delivered earlier in the season, but on account of the illness of our honored guest, this was impossible; but it turns out nevertheless that we are doubly fortunate, because we were able not only to obtain his consent to come to use in the first place but also actually to have him with us tonight, in spite of his recent illness.

Our first impulse for this meeting was to select some distinguished member of our organization who might befittingly eulogize our guest and introduce him, but on second thought we agreed that it would do him greater honor if we devoted the evening entirely to him. This is what we have decided to do. Dr. Whipple, as you know, is particularly well fitted to deliver the address, the title of which he has selected himself.

He is going to read to us on "The Relation of the Reticulo-Endothelial System to the Splenomegalies Associated with Non-Specific or Secondary Anaemia."

Ladies and Gentlemen, I take pleasure in introducing to you the orator of the evening, Dr. Allen O. Whipple, Professor of Surgery at Columbia University.

From the Department of Surgery, Columbia University.

*First Stanford E. Chaillé Oration delivered under the auspices of the Orleans Parish Medical Society, Monday, December 13, at 8 p. m.

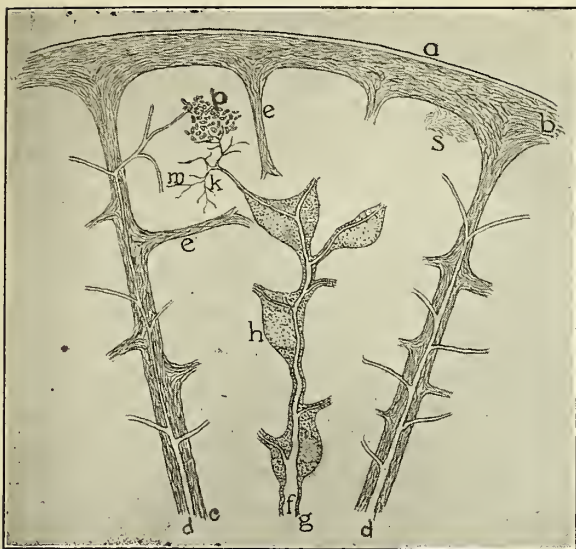


Fig. 1.—Splenic Lobule modified after Jordan. (a) tunica serosa; (b) tunica albuginea; (c) trabeculae containing vein; (d) vein; (e) branches of trabeculae inclosing "splenic unit"; (f) artery of lobule; (g) lymphoid sheath of artery; (h) Malpighian body with germinal center; (k) penicilli or precapillary arterioles; (m) ellipsoid body; (p) pulp cords separated by venous sinuses; (s) reticulum arising from capsule.

non-specific or secondary anaemia and the reticulo-endothelial system, three somewhat obscure and much debated subjects any one of which might well be considered as a topic for the evening. If in my considerations, in perhaps a philosophical vein, I may be able to stimulate further interest in the study of the reticulo-endothelial system as a correlating link between the splenomegalies and certain forms of anaemia I shall cherish the sense of rewarded effort. But I realize full well that I am treading uncertain ground and that my steps are beset with pitfalls of theory and conjecture. If in my review of the physiology of the spleen and the clinical picture of the splenomegalies and the non-specific anaemias, and the discussion of the reticulo-endothelial system I cover familiar ground I ask you to bear with me in my endeavor to sharpen some of the points that I am anxious to present to you.

The study of the spleen, in health and disease, has, from the earliest dawn of Medicine down to the present, been of the greatest interest to the profession. Both

experimentally and clinically it has caused conjecture and discussion, an ever intriguing problem. The history of the study of the spleen includes such names as Pliny, Galen, Malpighi, Morgagni and Ludwig. Galen's estimate of the spleen as an organ full of mystery (*organon pleni mysterii*) is still an apt one, for even with the advances of experimental work and clinical study of the past decade we are unable to state all of its functions or to deny that its removal is entirely harmless to the individual.

The fact that splenectomy, both experimental and, in clinical cases, for splenomegaly, has resulted in such confusing and at times contradictory conclusions is due, very largely to three facts. First, because the spleens in the different species of mammals, birds and amphibiae used in experimental work differ remarkably in their ratio of spleen to body weight and more especially in the ratio of reticulo-endothelial cells in other organs. Secondly, because of the capacity of other organs of the reticulo-endothelial system, such as liver and lymph nodes, to take over the work of the spleen after it has been removed. For example, in the goose the reticulo-endothelial apparatus is very largely concentrated in the liver, very little is found in the spleen. In the dog and in man the opposite is normally the case. A third factor may explain much of the contradictory experimental work, especially in young animals, that is, during embryonic life the reticulo-endothelial cells of the spleen are active in the formation of both red cells and leucocytes. At birth this function is taken over by the bone marrow. But the spleen, especially in the young animal, remains as a potential blood forming organ, and under certain conditions, both physiological and pathological, can resume in compensatory fashion this blood forming function.

HISTOLOGY OF THE SPLEEN.

Repeated reference to certain types of cells and their relation to the peculiar

vascular structure of the spleen warrants a review of its histological structure, at best a confusing subject. From the chart which is a modified drawing from Jordan's Text book of Histology, as shown by Pool in his monograph on the Surgery of the Spleen, it can be seen that the connective tissue frame work divides the spleen into lobules and its subdivisions, called by Moll, splenic units. It is the splenic unit that contain the splenic pulp, made up of the venous sinuses, arterial capillaries, pulp cords of cellular elements and the reticulum. It is this complex arrangement of these components of the splenic unit that gives the normal spleen its peculiar soft, spongy feel, and that with the increase of the connective tissue frame work is changed into the enlarged, firm organ seen in many of the splenomegalies.

The venous sinuses are arranged as short anastomosing channels with the internal longitudinal endothelial fibres giving open spaces when the sinuses are distended, thus affording free egress and ingress of blood to the cellular pulp cords. These cells of the pulp cords are made up of macrophages spoken of in the spleen as splenocytes and lymphocytes so that usually the spleen pulp tissue is made up of splenocytes, lymphocytes, red blood cells and the other cellular elements of the circulating blood.

The arterial capillaries probably form a direct connection with the venous sinuses, in a sense a closed circulatory system between arteries and veins with the venous sinuses letting out and taking in blood from the splenic pulp.

The delicate supporting frame work of the splenic pulp is called the reticulum. These fine fibrils of connective tissues are derived from the terminal branches of the trabeculae of the splenic unit. They are covered by or lined with flat endothelial cells. The fine reticulum with its covering of endothelial cells is part of

the reticulo-endothelial system which is found in the spleen as well as in the lymph nodes, bone marrow and liver. These cells will be discussed further, in the consideration of the reticulo-endothelial system as a whole.

PHYSIOLOGY OF THE SPLEEN.

Our present knowledge of the functions of the spleen although less certain than that of many other organs is far more definite than it was even ten years ago. This knowledge has been obtained from studies along two main lines. The first is the experimental work on relatively normal animals with intact spleens, the second is the data obtained from a study of splenectomized animal and human subjects. The entire subject of the physiology of the spleen along the above lines has been so thoroughly studied in recent years by Pearce, Krumbaar and their colleagues that I can do no better than to quote you their summaries. The first of these by Krumbaar⁽¹⁾ in a review of the physiology of the spleen in January of this year is quoted in paragraphs with additional comments. I would call your attention to the repeated references in this summary to the reticulo-endothelial cells and the part they play in the physiology of the spleen.

1. "The mammalian spleen, while not necessary for the maintenance of normal existence and sharing many of its functions with other members of the hemolytotoxic system, is useful in several ways and an organ whose presence under certain stresses may even be the deciding factor between life and death. Its functions are largely indicated by its structure, its reticulo-endothelial cell content and by the changes produced in other organs by its absence."

2. "There is good reason to consider it a blood reservoir that can be called upon efficiently to meet various physiological and pathological demands."

Comment—The recent work of Barcroft of the Cambridge School of Physiologists

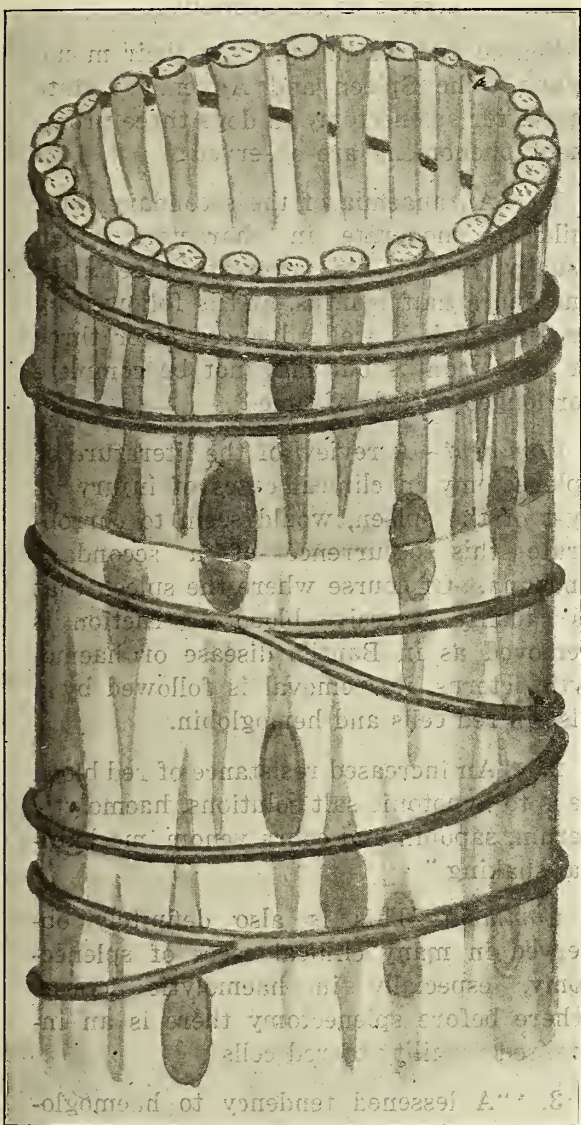


Fig. 2.—Schematic drawing of splenic venule showing the elongated endothelial cells, the structureless membrane and branching reticulum fibres encircling the endothelial cells. (After Mollier.)

has established the reservoir function of the spleen. By isolating the spleen on the skin surface of the dog's body, leaving the vascular supply intact, Barcroft has given visible, palpable proof of the difference between the large spleen at rest and the contracted spleen after exercise. That the spleen can pour and store blood is shown in carbon monoxide experiments with normal and splenectomized animals; the latter group succumbing to amounts of the poison tolerated by the former.

3. "It is directly concerned in blood cell formation during the fetal life and can revert to this function upon demand at any period of existence. It continues to furnish lymphocytes, large mononuclears and possibly other blood cells through most of adult life and has an indirect influence on blood formation, through a stimulating action on the bone marrow, possibly after activation by the liver."

4. "It is intimately concerned in the processes of red blood cell destruction, a role greatly increased in certain pathological conditions. It not only, in some way as yet unknown, renders circulating erythrocytes more fragile, but through its reticulo-endothelial cells, has the ability to scavenge blood cells and bacteria from the blood. It takes up disintegrating erythrocytes as a step in blood pigment metabolism, both in the form of fragmented cells, hemoglobin bearing dust or even, in conditions of increased hemolysis, of whole cells (graveyard function). It not only is the richest hoarder of iron in the body, but also prepares bilirubin pigment from the broken down hemoglobin for passage to the liver. In the absence of the spleen it becomes more difficult to produce jaundice with haemolytic agents. Continental authorities consider it the controlling organ for iron metabolism in the body."

Comment—During the past two years by means of spectrophotometric methods Mann⁽²⁾ of Rochester has demonstrated that the blood of the splenic vein contains more bile pigment, the result of red cell destruction, than does the blood in the splenic artery. This corroborates the microscopical evidence of red cell destruction as seen in the phagocytosed erythrocytes contained in the reticulo-endothelial cells of the splenic pulp. The reticulo-endothelial cells with those in other parts of the body manufacture the bile pigment and pass it on to the liver where it is modified and excreted as bile.

5. "It seems to be an important site of antibody formation (again through the reticulo-endothelial cells), though this function is quickly taken up by other organs in its absence. Through its lymphoid role, it also plays a part in resistance to such infections as tuberculosis. Preponderating evidence points to its also being concerned with biological resistance to tumor growth."

6. "Its relation to metabolism is less manifest. Disturbance in growth and digestion following its removal, maintained by some, are denied by more; and the same can be said of its relation to basal, nitrogen and carbohydrate metabolism. It seems to have a more definite connection with fat metabolism, especially cholesterol and the unsaturated fatty acids, which may be the reason for the improvement which splenectomy often procures in clinical anaemias, though here too authorities are far from unanimous."

7. "With regard to its relations to other organs, the liver, lymph nodes (lymphoid tissue generally) and bone marrow, as members of the haemolytopoietic system, are so closely allied that they share certain of its functions normally and quickly take over the remaining share after extirpation of the spleen. It has special affiliations with the liver on account of its definite "upstream" position in the portal circulation and possibly others of a more specific incretory nature. An interesting association with the parathyroids in calcium metabolism has recently been suggested. Supposed antagonistic relations with the thyroid await confirmation; connection with the thymus or ovary apparently does not exist and a possible synergistic relation to the pancreas is probably better explained as an especially marked participation (perhaps through its reservoir function) in the effects of the inanition, rather than by a specific hormonal connection."

EFFECTS OF SPLENECTOMY.

Pearce and Krumhaar⁽³⁾ in their monograph "The Spleen and Anaemia," state that after splenectomy in dogs three prominent phenomena are observed:

1. "An anaemia of the secondary type, mild or moderate in character, which usually reaches its severest stage after one and a half months, and is followed by repair which is well advanced after three or four months but may not be complete for longer periods of time."

Comment—A review of the literature of splenectomy in clinical cases of injury or cyst of the spleen, would seem to corroborate this occurrence of a secondary anaemia. Of course where the spleen that is causing excessive blood destruction is removed as in Banti's disease or haemolytic icterus, its removal is followed by a rise in red cells and hemoglobin.

2. "An increased resistance of red blood cells to hypotonic salt solutions, haemolytic serum, saponin and cobra venom, mechanical shaking."

Comment—This is also definitely observed in many clinical cases of splenectomy, especially in haemolytic icterus where before splenectomy there is an increased fragility of red cells.

3. "A lessened tendency to haemoglobinuria and jaundice, and sometimes an absence of jaundice after the administration of haemolytic agents." In addition it has been observed that in splenectomized dogs the bone marrow after a period of weeks changes from fatty marrow to red marrow. By many observers it has been noted that animals after splenectomy show marked hyperplasia of the lymph nodes, especially the mesenteric nodes. The reticulo-endothelial cells lining the lymph sinuses take on a very active phagocytosis of red cells, apparently a compensatory function in the absence of the spleen.

Before discussing the relations of the spleen to the clinical entities under con-

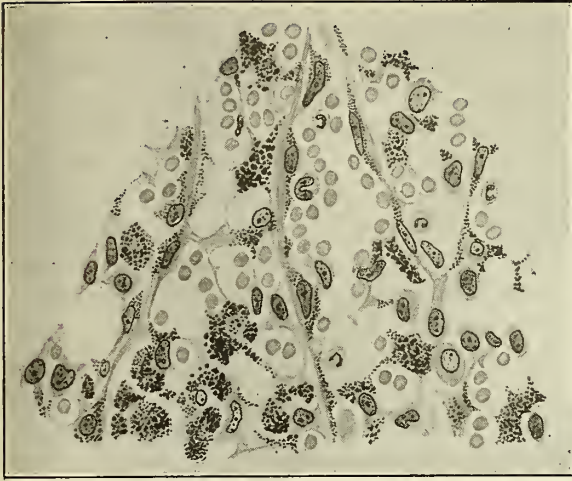


Fig. 3.—Section of normal splenic pulp of rabbit after vital staining, showing reticulo-endothelial cells and macrophages or splenocytes with carmine granules. (After Kiyono.)

sideration and their associated anaemia, it is essential to devote some attention to the so-called reticulo-endothelial system. Distributed throughout the spleen, the liver, the lymphatic system, the bone marrow, the vascular net work of the omentum and mesenteries, in close association with the minute blood vessels and blood spaces of the connective tissue frome work of these organs and structures there are found certain well-defined connective tissue cells both fixed and wandering. These cells, their origin, morphology and function, have been intensively studied by such eminent authorities as Ranvier, Marchand, Metchnikoff, Ribbert and in recent years, especially, in this country by Sabin, Cunningham, Doan and Evans, and in Germany by Aschoff and his pupils. It is to Aschoff that credit is due for building these cells into a system and the elucidation of their relation to other structures and functions of the body. It is impossible in the time at our disposal to go into the controversial points of the debate between Sabin, Cunningham, Aschoff, Kiyono and others of the Freiburg School. But suffice it to say that regardless of the origin of the reticulum cells and the endothelial cells, there is a general agreement as to their function.

The following are the chief characteristics of these cells:

1. They are derived from the fixed connective tissue elements, and are not considered by Aschoff to be haematogenous in origin. Under the main term reticulo-endothelial system are included the reticulum cells of the splenic pulp and of the lymph nodes, the endothelial cells covering the reticulum and lining the venous sinuses of the spleen, and the lymph sinuses of the lymph nodes and the capillaries of the liver (Kupffer cells) and blood spaces of the bone marrow. In addition there are included in this system the free wandering connective tissue cells in various organs and systems and endothelial leucocytes or monocytes and the splenocytes of the splenic pulp. Finally the peculiar adventitial cells on the walls of the peripheral capillaries, first described by Rouget and bearing his name, are considered by Aschoff to be a part of the reticulo-endothelial apparatus. Whether the Rouget cells have contractile properties as stated by Vimtrup in his studies with Krogh⁽⁴⁾ of the capillary system, is a disputed point, but they are of great interest from the standpoint of capillary haemorrhage which is seen in purpura haemorrhagica.

2. These reticulo-endothelial cells are the great phagocytes of the body, called clasmatocytes by Ranvier and macrophages by Metchnikoff. They engulf cells, cell products and cell detritus and parasites of all kinds from bacteria to minute inert foreign bodies. The site of greatest phagocytic activity varies in different species, in the birds for instance it is most active in the liver, in omniverous mammals this is most pronounced in the spleen.

3. But the distinguishing characteristic, common to all the cells of this system, constantly and easily demonstrable, is the interesting fact that these cells can be vitally stained. That is when a dye stuff such as lithium, carmine, trypan blue or

neutral red in complete solution is injected into the blood stream of an animal the reticulo-endothelial cells absorb the dye, without apparent injury, and show the dye as a granular deposit in their cytoplasm. Aschoff considers this *intra vitam* staining, with a dyestuff in solution, characteristic and a differentiating characteristic. For phagocytosis as such, is not limited to the reticulo-endothelial cells. It is, as is the vital staining, an evidence of the storage capacity (*Speicherung*) of the cells of this system. The outstanding researches of Goldmann⁽⁵⁾ in perfecting the vital staining method and of Kiyono⁽⁶⁾ have shown that this system of cells with their characteristically vital staining and phagocytic and defensive properties can be demonstrated throughout the entire animal series, from the cyclostomes to mammals.

A discussion of the splenomegalies associated with specific blood pictures such as the leukaemias, pernicious anaemias and polycythaemia is not undertaken in this presentation for two reasons: 1. These diseases have to do primarily with dyscrasias of the blood forming apparatus and do not seem to be so definitely related to the reticulo-endothelial cells. 2. These diseases from the standpoint of surgical therapy are very disappointing. Splenectomy not only is of no benefit but may hasten the fatal outcome. That is, to the surgeon the syndromes to be discussed are of prime interest because of the favorable results with splenectomy.

If we consider the splenomegalies associated with a secondary anaemia from the standpoint of disturbed physiology of the reticulo-endothelial system we may derive a new perspective in the study of these diseases. These are grouped as Banti's disease, haemolytic icterus, thrombocytopenic purpura haemorrhagica, Gaucher's disease and a certain ill defined group which still parades under the title of splenic anaemia.

Banti's Disease: In this disease it would seem that some irritant or poison had

stimulated the reticulo-endothelial apparatus of the spleen to an abnormal destruction of red cells. The Lintvarew⁽⁷⁾ theory that the anaemia is due to an increase in the red cell destruction by the splenocytes and the fibrosis is due to the chronic irritation of the product of red-cell destruction is not as convincing as the prevailing opinion that the enlargement is a response to a chronic inflammatory process, and that the anaemia is the result of an over activity of the blood destroying splenocytes. Symmers⁽⁸⁾ considers syphilis as the irritating agent. That there is an irritating agent causing an increase in connective tissue in the liver as well as the spleen such as is seen in some cases of syphilitic hepatitis lends weight to Symmers' view. Certainly Banti's disease is more closely related to the cirrheses than are the other splenomegalies under consideration, but differs from the liver-spleen syndromes in the more severe anaemia.

The good results following splenectomy in the early stages of this disease favor the view that the primary cause is in the spleen, and these good results are shown not only in an improvement in the anaemia, but an arrest of the degenerative changes in the liver, and the portal obstruction. In the cases operated upon before the ascitic stage it is interesting to note that other parts of the reticulo-endothelial system do not take on or continue the red cell destruction.

Hemolytic Jaundice: The cardinal symptoms of both types of this disease, congenital and acquired, are chronic enlargement of the spleen, a non-obstructive jaundice and an anaemia of the secondary type. As previously stated, blood destruction under physiological conditions is one of the chief functions of the reticulo-endothelial cells of the spleen, and in mammals, especially this blood destruction is concentrated in the spleen. It is in haemolytic icterus that the phagocytosis of red cells passes from a physiological to an extreme pathological degree. The excessive red

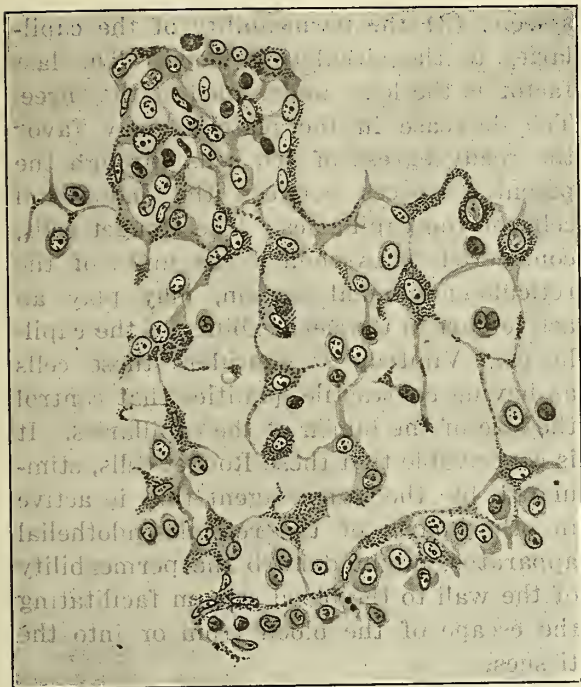


Fig. 4—Section of lymph sinus of a mesenteric lymph node of normal rabbit, after vital staining. Reticulo-endothelial cells and endothelial leucocytes show carmin deposits. (After Kiyono.)

cell destruction results in an amount of bile pigment beyond the ability of the liver to excrete it as bile, and although there is no mechanical obstruction to the bile flow as proved by the normal colored stools there is a jaundice of a degree varying with the red-cell destruction. Whether the increased fragility of the red cells is caused by an agent in the spleen or elsewhere in the reticulo-endothelial apparatus is disputed. But the fact that with the removal of the spleen pathological red-cell destruction ceases, while the increased red-cell fragility persists in many cases, would argue in favor of the hypothesis that the cause of the increased red-cell fragility is extra splenic; whereas the over active red-blood-cell destruction is confined to the spleen.

In this disease, as in no other splenopathy, splenectomy gives brilliant immediate as well as permanently curative results. We have observed two cases for a period of over ten years with no recurrence of anaemia or jaundice. All

seven of our patients have remained well. Apparently in this disease the reticulo-endothelial cells outside of the spleen do not take over the pathological red-blood-cell destruction after the spleen has been removed.

Purpura Haemorrhagica: The pathogenesis of this disease is far more complex because more problems are involved. Not only is there an anaemia, but the blood platelets are markedly diminished, the bleeding time and blood clot retraction time are prolonged and there is a disturbance in the permeability of the capillaries giving rise to more or less extensive haemorrhage. The relation of the spleen as an etiological factor to these disturbances is not so well defined as it is for instance in haemolytic jaundice. The fact that many of the cases of chronic thrombocytopenic purpura remain cured for periods of five years and longer after splenectomy argues for a causative agent in the spleen. But not all of the cases are cured by the operation, even though they may have, for a period of months, remained free from symptoms. One of our patients illustrates this strikingly. A boy of 18 had been incapacitated for five years with repeated attacks of bleeding, requiring many transfusions. He came to the hospital almost exsanguinated, his bleeding time was over an hour, platelets were so few as to be uncountable, tourniquet test was strikingly positive. After two transfusions I removed his spleen. Between the time of removal of his spleen and the suturing of his skin wound bleeding had stopped. Within 24 hours his platelet count had risen to 600,000. His entire appearance and sense of well being had improved remarkably. His recovery was uneventful. For eighteen months he remained symptom free, returned to school and athletic activities. Then without any known cause he developed petechiae, nose bleed and began bleeding into all his tissues, and within three days he died of subdural haemor-

rhage. As in many of the reported cases the initial rise in his platelet count fell within two weeks to 10,000 or less and remained at that level during the eighteen months of his return to good health. Few such cases, if any, have been reported, but this case brings up many interesting questions.

As pointed out by the writer⁽⁹⁾ in an analysis of the results of splenectomy in thrombocytopenic purpura haemorrhagica: "Inasmuch as the reticulo-endothelial cells get rid of the jaded or excessive blood platelets, it is logical to think that in a diseases such as purpura haemorrhagica, in which a low or absent platelet count is a prominent feature, some part of this system is overactive. If the overactive cells are largely limited to the spleen, its removal would promise immediate good results, and probably permanent results. But if the entire reticulo-endothelial circle is involved, splenectomy would do no more than remove a part of the overactive apparatus, and such a major procedure in the presence of a profound vascular disturbance, as in the acute form of purpura, is extremely hazardous to the patient." Whether the decrease in blood platelets is due to the failure of the megacaryocytes of the bone marrow to form new platelets or to an overactivity of the reticulo-endothelial cells in destroying them is still a debated question. The more generally accepted theory is that of Kaznelson that the platelets are destroyed by overactive phagocytosis in the spleen and other parts of the reticulo-endothelial apparatus.

It is furthermore generally agreed that the blood platelets are the most important formed elements in the blood clotting phenomenon in their formation of a thromboplastic substance. The severity of the bleeding in purpura would therefore seem to depend upon (1) the intensity of platelet destruction; (2) the extent to which certain cells in reticulo-endothelial system engaged in this destruction are distributed in this system outside of the

spleen; (3) the permeability of the capillaries to the circulating blood. The last factor is the least understood of the three. The decrease in the platelets may favor the ready egress of red cells through the potential spaces between the endothelial cells of the capillaries. The Rouget cells, considered by Aschoff⁽¹⁰⁾ as units of the reticulo-endothelial system, may play an active part in the permeability of the capillaries. Vimtrup⁽¹¹⁾ considers these cells as having contractile qualities that control the size of the lumen of the capillaries. It is conceivable that these Rouget cells, stimulated by the same agent that is active in other parts of the reticulo-endothelial apparatus, might disturb the permeability of the wall to the blood stream facilitating the escape of the blood from or into the tissues.

That the normal spleen destroys thrombocytes is favored by the fact that there is practically always a sharp rise in the platelet count after splenectomy, both in experimental animals and in clinical cases. But there are other definite factors that cause a thrombocytolysis, either by direct action or by overstimulating the elements in the reticulo-endothelial system that normally destroy thrombocytes. Cole⁽¹²⁾ in 1907 first demonstrated that the platelets could be destroyed in one animal by injecting into it antiplatelet serum developed in another animal. Other workers have reproduced the clinical signs and the blood changes characteristic of purpura by a subcutaneous injections of antiplatelet serum.

The same results have been obtained by injecting the by-products of streptococcus and pneumococcus. And it is known very definitely that the lighting up or the failure to drain of a streptococcus focus, as in an antrum or sinus infection, will result in a great diminution of the thrombocytes, and an appearance of petechiae and purpuric bleeding. It may be that the poisons from bacteria may stimulate some element in the reticulo-endothelial system to an excessive thrombocytolysis. This factor of in-

fection is a most important one and may be the underlying cause even in the so-called idiopathic purpura cases.

The efficiency of splenectomy in purpura depends upon whether at the time of the operation the major part of the thrombocytolysis is taking place in the spleen and whether after operation other units of the reticulo-endothelial system do or do not take on the pathological degree of thrombocytolysis. In the so-called chronic type of the disease, with the spleen hypertrophied it would seem that the platelet destruction was confined to the spleen for it is in this type that splenectomy produces brilliant and usually lasting results.

Gaucher's Disease: This disease is a clear cut entity, but it has little in common with the other splenic anaemias, beyond the chronically enlarged spleen and moderate anaemia. It is less familiar to the physician because of its rarity. It occurs more frequently in females, beginning insidiously in childhood and usually running a chronic course for 15-20 years. It may occur in more than one member of a family. It is characterized by a progressive enlargement of the spleen, a low grade anaemia of the secondary type, pigmentation of the exposed skin, and a tendency to bleed from the nose, skin, gums, uterus and into the skin. The pathologic picture is characterized by the presence of large polygonal or oval cells, with one or more small nuclei in a pale acidophilic cytoplasm, that are found in the spleen, liver, lymph nodes and bone marrow. Save for the simple anaemia there are no abnormal blood findings. A very excellent discussion of this syndrome with a thorough analysis of the 50 collected cases from the literature was published from the Surgical Department of Columbia by Cushing and Stout⁽¹³⁾ in February of this year.

Both Aschoff⁽¹⁰⁾ and Mandlebaum,⁽¹⁴⁾ who gave this disease its most complete pathologic study, consider the Gaucher cells characteristic of the disease as de-

rived from the reticulo-endothelial cells of the organs in which they occur. The fact that they are not found phagocytosed in the lung or in the lung capillaries is an argument against their being distributed from the spleen to the liver and thence through the lung into the systemic circulation. It would seem that in this disease some irritant gave rise to an abnormal activity of the reticulo-endothelial cells in the spleen, the liver, the lymph nodes and the bone marrow. It is generally agreed that these cells proliferate mostly in the splenic sinuses. For this reason the removal of the oft times enormous spleen results in great improvement. But how much the other organs take on a compensatory activity is uncertain. So far as I know no cases splenectomized for any length of time have come to autopsy. The fact that in one of our cases extensive invasion of the head of the femur by Gaucher's cells was found at operation on the hip joint after a splenectomy shows that the disease may be progressive. For this reason the results in many of the cases are not brilliant and the prognosis for prolonged cure is doubtful. Thus in this disease also the abnormal reticulo-endothelial cells are the cause of the splenomegaly and in all probability of the anaemia inasmuch as the haemorrhagic tendency is usually present.

Finally there is a group of cases which for want of a better term and for many years have been spoken of as Splenic Anaemia. In these patients there is little else to be found in the examination other than an enlarged spleen of variable sizes with a mild secondary anaemia. It is impossible to differentiate these cases from those cases which later go on to the ascitic stage of Banti's disease, and for this reason, many clinicians consider them to be early or preascitic cases of Banti's disease. From the therapeutic standpoint, the indication for splenectomy and the prognosis following splenectomy are the same as in Banti's disease.

CONCLUSIONS.

In concluding this analysis, necessarily brief and in many respects conjectural, I should like to leave with you the following propositions:

1. In a certain group of splenomegalies that respond to surgical therapy there is an associated anaemia secondary in type and showing no specific blood picture.

2. The deranged functions of the spleen in these clinical entities would seem to be due to the derangement of the reticulo-endothelial apparatus.

3. The extent to which the derangement of the reticulo-endothelial cells is limited to the spleen determines apparently the efficacy of splenectomy.

4. The capacity of the reticulo-endothelial cells of parts of the reticulo-endothelial apparatus outside of the spleen to take over physiological and pathological activities of the spleen compromises the prolonged period of relief following splenectomy in such conditions as thrombocytopenic purpura haemorrhagica.

5. In studying these disease we must consider them in terms of the reticulo-endothelial system.

6. A more comprehensive knowledge of the reticulo-endothelial system will do more than all else to clarify our ideas regarding the splenopathies.

Results in the Presbyterian Hospital Series of splenectomies for the splenopathies under discussion.

Numbers above the line represent years.
Numbers below the line represent cases followed.

D. represents time of death
Banti's Disease:

16 Splenectomies, 3 Postoperative deaths.

D	D			D									
1	2	3	4	5	6	7	8	9	10	11	12		
4		1		1	1							1	

2 cases lost to follow up.
6 cases symptom free.
1 case improved.
1 case unimproved.

Haemolytic Icterus:

7 Splenectomies. No postoperative deaths.

1	2	3	4	5	6	7	8	9	10
3	1		1	1					1

All cases symptom free.

Thrombocytopenia Purpura Haemorrhagica:

4 Splenectomies. No postoperative deaths.

	D
1	2
1	2

3 cases symptom free.
1 case died after 18 months of complete relief of an acute exacerbation of purpura.

Gaucher's Disease:

3 Splenectomies. 1 postoperative death.

1	2	3	4	5	6
1 case at end of 5½ years complains of asthenia.					
1 case at end of 2 years markedly improved.					

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Remarks of the President following the Chaillé Oration:

Ladies and Gentlemen: The chair cannot refrain from extending in your name a vote of thanks to Dr. Whipple. By his masterful presentation of a most fascinating, scientific subject he has brought into realization our fondest hopes for this memorable occasion.

Since this is the first Chaillé Oration, however, it would seem to be especially appropriate to hear something about Dr. Chaillé himself. There happens to be present here tonight, two of his close, lifelong friends who will be willing it is

hoped to introduce a personal phase to this delightful evening by telling us some of the things that they know about the man and the teacher whom we are honoring tonight. The chair will therefore take the liberty of calling upon first Dr. Ernest Lewis, and second Dr. Rudolph Matas.

Dr. Ernest Lewis:

I date my acquaintance with Dr. Chaillé some years before he was known to my friend Prof. Matas; from 1859, sixty-seven years ago, when I began my medical studies. Probably but few in this audience were then born. He was Demonstrator of Anatomy in the Medical Department.

I felt a warm friendship for him. He was a man of high character with a strong sense of justice. At the outbreak of the civil war in 1861 he joined a light cavalry company and before the close of the year was acting Surgeon General of Louisiana. Before the fall of New Orleans he became Medical Inspector of General Bragg's army in Tennessee serving in that capacity for nearly a year when he was ordered to take charge of a hospital in Atlanta. From there, after eight or nine months service, he was ordered to Macon as head of another hospital where he remained until taken prisoner near the close of the war. Being paroled he returned to New Orleans, and when the Medical Department reopened, after a suspension of two years, resumed his duties.

That I can furnish these details on the spur of the moment concerning the life of Dr. Chaillé is due to the fact that I represented the Medical Alumni in an address at the Chaillé Jubilee given at the Tulane theater some years ago, and more recently delivered another on armistice day in Metairie cemetery. On the death of Dr. Thomas Hunt, distinguished Dean and Professor of Physiology and Pathology, he was appointed to the vacant chair.

He was thoroughly qualified from an educational point of view—a graduate from Harvard with the B. A. degree, and a few years later that of Master of Arts. He was also a graduate of the Medical Department of the University of Louisiana, now Tulane, and then followed a course of medical studies in Paris, devoting himself especially to Physiology and working in the laboratory of Claude Bernard, the most eminent physiologist of his day.

As a lecturer he was not surpassed in the Faculty. He was logical, clear and concise, with a forceful manner which fixed attention, impressing his subjects on the minds of his hearers. He was loved by the students and his classes were always well attended.

On the death of Dr. Richardson, the eminent Professor of Surgery, and Dean of the Faculty, he was unanimously elected Dean. In that position he displayed great administrative and executive abilities and under his leadership the Medical Department prospered greatly.

Notwithstanding his college work as Dean and teacher he found time to lecture once or twice a week on Hygiene to teachers of Public Schools and the public.

He was a prolific writer, his contributions to medical literature giving him a national reputation. He was honored on various occasions. He was one of a select few asked to write a paper for the International Medical Congress, to meet at Philadelphia. The subject of his paper, Medical Jurisprudence, was highly praised by the President and members of the Congress. He was one of twelve appointed by the Congress of the United States to investigate the yellow fever epidemic of 1878 and was secretary of this board. He was one of four appointed by the National Board of Health on the Havana Yellow Fever Commission, and its chairman. He was also one of seven appointed by President Arthur on the National Board of Health and later was appointed Supervisor General of the board in New Orleans.

Although of positive character he was far from dogmatic. He was also of a sympathetic nature with much warmth of feeling and it pained him to reject a student howsoever undeserving of consideration who failed on examination in his branch. He was influenced only by his strict sense of justice. In that respect he differed from the eminent Dr. Warren Stone, Professor of Surgery, who on one occasion plead with his colleague for a student who had failed to obtain the necessary number of affirmative votes for graduation, that he was studious and attentive, never missing his lectures but handicapped by lack of education, and that at any rate he knew more than the people in the settlement out West where he expected to locate and would not discredit the college.

Dr. Rudolph Matas:*

I regret that I had no notice or anticipation that I would be called tonight to speak of Dr. Chaillé. Like so many of Dr. Chaillé's remaining pupils, personal friends and admirers, I came here solely to enjoy Dr. Whipple's lecture—the first of the series that the Orleans Parish Medical Society has so appropriately dedicated to the memory of one of its illustrious founders and honored leaders. I would have preferred to have had more time to collect my thoughts, at least

*Revised and enlarged from the stenographer's notes.

in a way that would have given me an opportunity more adequately to express the sentiments evoked by his memory and to render a tribute more worthy of him and of this occasion. None the less, I feel that I, who knew Dr. Chaillé so long, and who loved and admired him so much, should be ready at all times to speak his praise. I realize that whatever I may now say can at best very imperfectly voice the sentiments which Dr. Chaillé inspired in me. Again, I regret that, in spite of the abundance and vividness of my recollections, I can do so little to convey to you anything like a fair concept of his merit and of his extraordinary personality.

To him, more than to any other of my teachers, next my parents, I owe the greatest inspiration in my professional life. To his advice, sympathy and encouragement in the formative period of my medical career, I am indebted for the best of whatever service I may have rendered to my own advancement, to my profession and to my fellows. Merely to think of him stirs my emotions and unfits me to speak with that calm serenity and critical deliberation that might befit an impersonal, distant commentator or biographer. Such an attitude can never become one who reveres his memory with a gratitude as inextinguishable as is mine. Fortunately, my partiality and devotion to him do not affect his merit, by exaggeration, for I am only one of the hundreds and thousands of the Alumni of this School who enjoyed the privilege of his teaching—who have shared my affection for him—many of whom, now living and here present, would rise in a body to acclaim him and testify to his greatness as a leader and man among men.

It is also fortunate for me that the life, labors and achievements of Dr. Chaillé, as told by distinguished and eloquent speakers on at least three relatively recent occasions, are still fresh in the recollection of many who participated in them—among whom I am happy to see here tonight our beloved Dr. Lewis, one of Dr. Chaillé's contemporaries and most trusted friends.

The first celebration was the "Chaillé Jubilee Night" held under the auspices of the Tulane Alumni Association on May 19, 1908—nineteen years ago, when, (after half a century of unsurpassed usefulness and unremitting toil in the service of his Alma Mater, as Demonstrator of Anatomy, Professor of Physiology, Pathological Anatomy, Hygiene, Dean of the Medical School, and in other capacities), the official career of our illustrious Dean was, by his retirement, brought to a close amid a paean of praise and spontaneous outbursts of enthusiastic admiration that will remain memorable for all time, as the

greatest demonstration of admiration and approval ever accorded a member of our profession in this historic city.

The second public demonstration, "the Chaillé Memorial Night," was held in this very hall on the night of April 25, 1912, when the Louisiana State Medical Society set apart one of its evening sessions to commemorate Dr. Chaillé's service as the foremost organizer of the medical profession in Louisiana and the father of the fundamental laws related to medical legislation which have been incorporated in the Constitution of the State. This memorial meeting, which was held nearly one year after Dr. Chaillé had passed to his eternal rest (May 27, 1911), was made resplendent by the series of biographic and eulogistic addresses delivered by several of the most distinguished representatives of the medical and legal professions of the city and state. These suffice to prove how profoundly Dr. Chaillé's dominant personality had stamped itself upon the medical history of Louisiana, and how gratefully and how reverently his memory is cherished by his contemporaries and successors, as that of the most constructive medical statesman that this State has ever produced.

The reunion of the Alumni of the Medical Department of Tulane University in New Orleans on November 26, 1924, in connection with the meeting of the Southern Medical Association, gave the third opportunity for another "Chaillé Memorial," which was attended with such enthusiastic manifestations of approval that everyone present felt the throbbing pulse of that great gathering as it moved in harmony with the recital of his achievements. Nor can anyone doubt that the same influence which had stirred, controlled and swayed the undergraduate ranks during the half century that Dr. Chaillé had taught in the School and flourished in this community, still lived in the hearts of the Alumni as a magnetic force which gave an almost tangible reality to the spirit of the departed Master, when invoked, as it was, tenderly and reverently on that occasion.

I need go no further than the mere mention of these three historic celebrations, in which public homage was rendered Dr. Chaillé as a medical educator, organizer, law-giver and statesman, sanitarian, scholar, philosopher, writer, soldier and patriotic citizen, to prove that, by virtue of his surpassing achievements, the medical profession of Louisiana has accorded him a lofty place in the pantheon of its immortals.

Perhaps what I have said would suffice as a general appreciation of the merit of the man whose memory the Orleans Parish Medical Society honors tonight by inaugurating this splendid course of scientific lectures under the aegis of his

name. But since, as one of his devoted and most attached students, I have been called to speak of him, it may not be inappropriate that I should refer, in some manner, to the personal relations that gave me an insight into his character and established him firmly in my mind as one of the most remarkable of the intellectual men whom I have met, and the noblest of friends.

It happened that in the earliest years of my student life, while an undergraduate interne at the Charity Hospital and after I had served my first term in that institution, during the disastrous epidemic of yellow fever in 1878, I had the good fortune to be called by Dr. Chaillé and Dr. Bemiss (at that time professor of the principles and practice of medicine, and one of the most loved teachers in our school) to serve as an attaché of the Havana Yellow Fever Commission of the U. S. National Board of Health. This Commission came into existence in 1879 as a reaction from the panic caused by the epidemic of 1878. This was the first commission sent by the United States government to survey and report on the sanitary conditions of Havana and the island of Cuba—then known as the most dreaded focus of yellow fever in the Western Continent. Dr. Geo. M. Sternberg, the most eminent bacteriologist of his day and subsequently Surgeon General of the U. S. Army during the Spanish War, Dr. John Guiteras, later justly famous as a yellow fever expert and sanitarian, and Col. Hardie, a distinguished Louisianian and sanitary engineer, were the members of this Commission. Mr. Henry Mancel, photographer, and I, as clerk and laboratory assistant, served as attachés.

During the three months of the summer of 1879, that the Commission pursued its investigations in Cuba, I had the inestimable privilege of coming daily in close contact with Dr. Chaillé, who was my teacher and to whom I clung as my chief guide and mentor. During these three months of almost constant association, there sprang up an intimate and, to me, delightful relationship with my chief, in which my functions as interpreter, translator, clerk and laboratory assistant, gave me an exceptional opportunity to learn from his attitude and reactions to the innumerable and complex, problems that were presented to him, his wonderful capacity to cope with difficult and unexpected situations, and to emerge from them triumphantly with an ease and dignity that would have accredited the most experienced and tactful diplomat.

And yet the so called "arts of diplomacy" and dissimulation were entirely foreign to him. His success in dealing with men rested chiefly upon his knowledge, his honesty, truthfulness, high

sense of justice, and a directness of thought and action that left no room for doubt or cavil as to his meaning or intention. Unusually unaffected and unpretentious, he despised show, conceit or pretence. No one detested knavery or trickery more than he. His address to one of the graduating classes on "The Practice of Medicine as a money making occupation" is memorable as a crushing indictment of current tendencies toward commercialism in medicine and a forceful appeal to the finest ideals of the profession.

Whether exchanging official courtesies with the Captain General—a grandee of Spain—or in meeting delegations of the learned from scientific and professional institutions of the island, or in addressing the staffs of the numerous military and civil hospitals of Havana, his speeches were models of correct form and appropriate diction. His mastery of the subject that had brought him to Cuba, and his accomplishments as a finished scholar and scientist, instantly gave him recognition and accorded him all the dignity and the highest honors that could be bestowed by a foreign government and its learned corporations.

To sit at table and listen in respectful silence to his conversation with his distinguished associates and guests, in which the topics of the day were discussed and commented upon, was a delightful experience which I always anticipated with the greatest relish. The suggestiveness of his conversation, which sparkled with wit and wisdom, and always entertaining, was, in itself, a liberal education. Whether at table or in formal conference with official delegates, his remarks and observations were keen, pointed and pithy; they immediately gave him precedence and commanded the most respectful attention.

Long before this Cuban experience, Dr. Chaillé had won my unbounded admiration as a teacher and a man of learning; but in this Cuban expedition, his independence of character, moral and physical courage, absolute regard for the truth, his intellectual integrity, sound judgment and practical common sense, high sense of duty, loyalty, clearness and breadth of vision, punctuality, untiring application and concentration in the discharge of his duties, accuracy of thought and speech, were all calculated to inspire respect and were extremely illuminating to all, but to none more than to the inexperienced youth and raw recruit from the medical ranks, whose duty it was to follow him and to rack his brain in the vain effort to translate his leader's fine thoughts and impeccable, forceful, finished English diction into a foreign and difficult tongue. This was the more trying when the interpretations had to be made to critical individuals or audiences who could scarcely do justice to his merit except when spoken to in their mother tongue.

The oft quoted saying, "That no man is a hero to his valet" and that "Familiarity breeds contempt," may be true of valets and of certain types of men. Indeed few men, no matter how great and gifted they may be, can stand the test of prolonged intimacy without revealing in some way the frailties of the mind and of the flesh, when exposed to the nakedness of private life. Flaws of character and flaws of the flesh, which seem inherent in human composition, often dim the halo of glory that surrounds the otherwise great men and women in the eyes of their familiars. These thoughts are not applicable to Dr. Chaillé, who was never familiar in any vulgar sense and who was honored with the respect and affection of his humblest and most menial servants, as well as of his nearest and most intimate friends. In fact, many amusing stories could be told to illustrate the extraordinary hold of Dr. Chaillé, from his earliest childhood, upon the affections of his servants; whether white or black, they were all proud of the distinction of serving such a master.

Personally, I can truthfully say, from all the opportunities for observation given by my long and close contact with Dr. Chaillé, during the period that we lived together under the same roof, in Havana, he never lost his prestige, and never, for an instant, did he cease to be a hero in my eyes.

There are many men who have great minds, men of genius, or talented in many diverse and highly specialized lines,—each excelling in his own peculiar way, but I have never known one who combined in a single personality so many notable, superior traits of character and attributes of mind, as Dr. Chaillé.

His mere presence commanded respect,—will, character, intellectual power, were indelibly stamped upon every line of his virile and well sculptured features. No one can fail to recognize the striking force and impressiveness of his countenance as it is reproduced with wonderful fidelity in Ghiloni's life-like bust in bronze, that is so greatly admired in our library.

As a teacher, with capacity to reach the intelligence and awaken the interest, pride and enthusiasm of the students on the subject of his teaching,—he had no equal. Lucidity, accuracy of speech, earnestness and wealth of illustrations, were his dominant characteristics. He was equally at home in dealing with the crudest unprofessional audiences as with the most critical experts. When he spoke, attention and interest never lagged. As Dean, he was preeminently successful in carrying the school through a difficult period of evolution, conserving the principles of medical pedagogics, and he laid a stable foundation

for the greater superstructure that was made possible through the added financial resources that came at the close of his administration, in 1908, through the philanthropy of Mr. Hutchinson, and, later, the great Educational Foundations. He never trusted to chance, and his success as an administrator and executive officer, during the 21 years of his Deanship, was the result of preparation, by arduous and conscientious study of the problems that were brought to him for discussion and decision. As an administrator, he never indulged in idle dreams, but dealt with stern realities. A profound student of medical education in this country, he was always conservative, yet progressive. This was in harmony with one of his favorite maxims: "One of the most frequent causes of bitter disappointment and disaster in all the practical affairs of life is the overestimating of receipts and the underestimating of expenditures."

It was in his relations with the students, as Dean, that he displayed his remarkable control of men and his capacity to play upon their sensibilities. An admonition or a reprimand from him, in a few words, was far more effective than an hour's sermon on behavior from others. His tongue often wielded a lash which stung to the quick and startled the offender into an immediate realization of his guilt; then, when the effect had been obtained, he would dismiss the culprit with a final remark or two that proved a soothing balm, so blended with mercy and gentleness that the guilty student felt grateful for the lash.

A mere glance at Dr. Chaillé's bibliography, embracing a list of 160 titles, impresses us with his catholic type of mind and the universality of his interests. While this large bibliography only partially and inadequately represents the sum of his literary activities and his prodigious industry, it amply suffices to establish Dr. Chaillé's enduring reputation as an expert in State medicine, medical jurisprudence, medical organization, medical education, hygiene, sanitation and, especially, yellow fever, of which his encyclopedic knowledge justified his rank as the foremost student of the disease in his day. As an advocate of municipal hygiene, as applied to New Orleans, his leadership contributed to many sanitary reforms and, through his powerful pleas for the teaching of the elements of Physiology and Hygiene in the public schools, he is justly credited with the introduction of these branches of instruction into their curricula.

His gifts as an orator and public speaker are universally recognized, and when roused by patriotic fervor, as was well illustrated by his address of welcome to the medical officers of the Confederate Army and Navy, held in New Or-

leans in 1903, he could touch the heartstrings of men with as much feeling and responsiveness as a great virtuoso could evoke emotions by his inspired playing upon a musical instrument. No one can read this address without being thrilled by the exalted patriotic idealism of the orator, the beauty of his thoughts, his profound sympathy with his comrades, and his undying loyalty to the "lost cause."

As a rule, Dr. Chaillé never affected oratory nor strove for eloquence. As has been truly said, "He was always too much in earnest; his purpose was to convince, and he made use of his natural gifts of expression simply as a means to that end, in good, sound, sturdy English."

A large volume could be filled with Dr. Chaillé's sayings and quotations from his writings, in which his wit, wisdom and philosophy of life would sparkle as gems in a coronet resting upon his intellectual brow.

Much has been done to commemorate his memory,—a Chaillé Laboratory of Hygiene; The Chaillé Memorial Session, by the State Society; a Chaillé building; the beautiful bust by Ghiloni, and now this annual course of scientific lectures, established by the Parish Society and so admirably inaugurated by Dr. Whipple.

All this is well, but to those of us who knew Dr. Chaillé and who profited by his teachings, his example and his friendship, nothing can add to his fame nor to the splendor of his achievements. Speaking, personally, I feel that distance and time have only magnified his image and intensified my admiration.

In behalf of Dr. Chaillé's friends, pupils and former associates, I congratulate the Society on the brilliant success of this inaugural night and thank Dr. Whipple for detaching himself from his busy clinics and laboratories in New York, to contribute his admirable scientific labors to our enlightenment in a new and unthreshed field of medical investigation, and to add dignity to an occasion in which we have assembled to render homage to one of our immortals.

A STUDY OF THE CESAREAN SECTIONS PERFORMED IN THE HOSPITALS OF NEW ORLEANS FROM 1921 THROUGH 1926.*

By the New Orleans Gynecological and Obstetrical Society.

Some months ago it was decided by the New Orleans Gynecological and Obstetrical

Society to undertake a survey of the Cesarean sections performed in the hospitals of the city over a period of years, with a twofold idea: first, that statistical studies along definite lines offer the only satisfactory method of checking our collective results, upon which, rather than upon our individual results, the real value of any given procedure must be estimated; and second, that a report of this type would be of interest to the profession in general as well as to physicians whose field is limited to the specialty of obstetrics.

Cesarean section was selected as the subject of this investigation, which we hope will be followed by others along similar lines, because we believed it well to evaluate our own performance in an operation about which so much discussion has raged. The six year period, 1921-1926, was chosen because it is sufficiently long to make our figures representative, and for the very practical reason that the records prior to 1921 are not of a type to be helpful in an investigation where details are essential.

It might be well, at this point, briefly to record our opinion of the records we handled. There is no question but that they have shown a progressive improvement in the last six years, although it is equally beyond question that there is still room for improvement, particularly in private hospitals. The records of Charity Hospital are on the whole good, for the reason that the internes there are held responsible for securing complete data on every patient, while in the average private hospital, they are not only not compelled to do this, but are usually not permitted to make complete examinations. The responsibility for completing the records is thus put squarely up to the visiting man, and, although his private records are doubtless complete, he fails to transfer his data to the hospital chart, an omission which does him a great disservice in such a survey as this. Indeed, it is not possible to comprehend how de-

*Read before the Orleans Parish Medical Society, January 24, 1927.

fective even the best of our records are until one works with them, as we have done. I might say that in every instance we have based our calculations upon and drawn our conclusions from the facts stated in the records; never did we supply omitted data, however easily it might have been done.

The basis of this study is two hundred ninety-one Cesarean sections from the six hospitals represented in our membership, Baptist, Charity, Hotel Dieu, Mercy, Presbyterian and Touro. For purposes of comparison we have secured the gross figures from Flint-Goodrich Hospital and the Woman's Dispensary also, and table I therefore represents the actual incidence of Cesarean section in hospital practice for six years (1.8 per cent), as well as in the city generally (.000484 per cent. The highest number, one hundred nine, were performed at Touro Infirmary, where the incidence, however, was only 2.7 per cent, while the highest incidence (5.4 per cent) was at Presbyterian Hospital, where the number of operations totalled only thirty. The lowest incidence, (1.2 per cent) was at Charity Hospital, and in view of the number of abnormal cases handled in the wards there it is worthy of comment, as Williams puts it, that so many operative possibilities should have been permitted to escape. The incidence figured for both the Baptist Hospital and Mercy Hospital is hardly fair, since these institutions have been functioning only a relatively short time.

Table II illustrates the age, the parity and the stage of gestation of the patients in the series. The relative youth of the women and the very high percentage of primiparae should both be commented upon in view of the fact that a first Cesarean introduces at least the possibility of another abdominal delivery in a subsequent pregnancy, a consideration it is well to bear in mind when weighing the relative advantages of vaginal and abdominal delivery, provided, of course, that vaginal delivery is feasible. Both the thirteen year old

patients were from the colored service at Charity Hospital, the indication being disproportion in one case, probably due to under-development of the bony pelvis, and eclampsia in the other.

Nearly 20 per cent of the patients were not at term, and the stage of gestation ranged as low as five months. Since it is the general opinion that most complications of pregnancy necessitating evacuation of the uterus may be successfully handled before term by the vaginal route, and since the death rate in premature children is so high, it seems, on the surface, unfair to the mother to subject her to the risk which any Cesarean operation involves, for the sake of a child whose viability is doubtful.

Table III illustrates the abnormal deliveries which these women had previously undergone, many of them obviously suggesting that vaginal delivery should never have been attempted originally. In several patients more than one type of previous difficult or operative delivery is recorded, and over one-sixth had previously been delivered by Cesarean section. Frequently, particularly in eclampsia and the other toxemias, and placenta previa, many of the multiparae studied had had previous normal deliveries.

Table IV deals with the operative side of the study. More than a quarter of the operations were performed by three men, and nearly three-quarters of the cases described were done according to the classical technique. Since most of the cases not described were done in the first years of the investigations, they were probably done according to this technique also. The miscellaneous group includes the various types of transperitoneal and extraperitoneal operations not described in sufficient detail for accurate classification. The majority of the cervical operations (the laparotrachelotomy popularized by Beck, DeLee and others) were done in 1925 and 1926, and more than half of them were

done on the same service. The small incidence of the Porro operation (4.2 per cent) is rather surprising when we consider the comparatively large number of grossly and potentially infected cases studied, and also when we consider the popularity of this operation under the same circumstances in certain other clinics.

In view of the comparatively large number of repeated Cesarean operations (in several instances three) the fact that only 11 per cent of the women in the series were sterilized shows a decided degree of conservatism. It is regrettable that the record of the case in which appendectomy was performed in the course of a Cesarean operation done on the indication of eclampsia is not sufficiently full to give us the reasons for this decidedly unusual procedure. In the case in which complete hysterectomy was done for carcinoma of the cervix, the patient was admitted after a twenty-four hour labor, with a dead baby, and an absolutely undilatable cervix, so that vaginal delivery, even after craniotomy or embryotomy, could never have been achieved. A rush diagnosis was made of an excised specimen from the mass, and complete hysterectomy was done after the child had been removed from the uterus. It may be of interest to add that this patient remained well for two years, but has recently been examined and been found to have a recurrence in the vaginal vault.

Table V, dealing with the position, the measurements and the previous scars, excellently illustrates the omission of essential details in the records, to which we have already referred. No obstetric record, no matter what the type of delivery, is complete without a statement of the presentation of the fetus, yet in more than half of these cases it was not even mentioned. In other instances two and three different positions appeared on the same chart. The incidence of transverse presentations, ordinarily estimated at three per thousand is extraordinarily high in this series, fourteen out of one hundred

fifty-four stated. Again, no obstetric record is complete without measurements, and when these are omitted in half of all the cases, and, more particularly, in a third of the cases in which pelvic contraction was the indication, the omission is hard to condone. In three instances the measurements given for cases in which the indication was pelvic contraction show the diameters of the pelvis apparently entirely normal. Furthermore, some of these measurements evidence very grave degrees of contraction, of a type relatively infrequent, at least among the white women in this community, because of the small incidence of rickets and other diseases which commonly cause such deformities. Because so many of the patients were permitted to go through long labors before operation was resorted to, we are inclined to believe that many of these extreme figures are erroneous, and that the contraction in many cases was really of the borderline type, where the test of labor was warranted. In other instances of repeated Cesarean section the measurements of the same patient in the course of a year or two varied as much as 4 cm. in diameters supposedly estimated by the pelvimeter.

The fact that in only nine cases, exclusive of the four cases of rupture, was the scar of the previous operation adequately described, is almost a calamity, since studies of large series of scars will eventually be our real basis for determining, other things being equal, just what element of risk vaginal delivery holds for a patient previously delivered abdominally.

Table VI and table VII, dealing with the duration of labor, the number of examinations, the rupture of the membranes and the previous attempts at delivery, would seem to indicate that in a fairly large number of cases the operation was an emergency procedure, done as a last resort. These figures are particularly worthy of analysis, since the dangers of Cesarean section are well known when it is performed

after prolonged labor, repeated examinations, attempts at delivery, and dribbling away of the amniotic fluid. In one instance the operation was done after labor had reached the second stage, and conversion, forceps, version and craniotomy had all been attempted unsuccessfully, while in another instance it was done after a seventy-two hour labor, when forceps, version and manual dilatation had all failed. In both instances the Porro operation was done. The case in which the previous Cesarean scar ruptured after the third dose of pituitrin is also worthy of special mention; operation was done six hours after the rupture had occurred, and death ensued twelve hours later.

Table VIII illustrates the various indications, roughly classified, for which abdominal delivery was undertaken. One case is frequently classified under several headings, as for instance, "contracted pelvis and previous Cesarean," "contracted pelvis and disproportion," etc. The indication of deformities of the bony pelvis, the most usual indication for this type of delivery, appears in one-third of the cases. Eclampsia, responsible for one-sixth, appears but rarely after 1922. Many of the indications, unless there were circumstances other than those stated on the records, seem of insufficient weight to warrant laparotomy. Fetal anencephalus and hydrocephalus and such indications as "obstructed outlet," "ossified symphysis pubis," "arthritis of the ankle," "adhesions," "health wrecked by childbearing," "patient's own desire," "patient's desire for sterilization," all of them quoted verbatim from the charts, seem scarcely sufficient reasons for resorting to abdominal delivery.

Table IX illustrates the postoperative course, distension, vomiting and fever being included in the figures only when they were troublesome features of the convalescence. The fact that nearly two-thirds of the patients had what must be classified as a febrile convalescence is

worthy of comment in view of the fact that one of the indications for a second Cesarean is this very type of convalescence.

Table X illustrates the complications in the series, excluding deaths. One thing which impressed us as rather unusual is the occurrence of three postoperative vaginal hemorrhages, to which must be added two others which do not appear in this table, as the cases terminated fatally. Dilatation of the stomach, in some instances of a very serious type, was a feature in seventeen, all of them after the classical operation. Endometritis of a type severe enough to demand curettage on the twelfth day postoperative is also rather unusual. The postoperative convulsions all occurred in patients who had had one or more seizures prior to delivery.

Table XI is an analysis of the maternal mortality according to the actual causes of death. It is the opinion of the committee, however, that these are not in all instances correct. We believe, particularly, that peritonitis is unquestionably responsible for a larger number of deaths than are credited to it here, since it is so frequently a complication of such conditions as placenta previa and rupture of the uterus, and also so frequently a complication in Cesarean section done in neglected labors. The percentage of embolus is rather high, but in each case a careful study of the symptoms showed that the diagnosis was warranted.

Table XII, which shows the maternal mortality according to the indications for operation, offers overwhelming evidence that eclampsia, with a death rate of 41.5 per cent, is not best handled, at least in the convulsive stage, by Cesarean section. The low death rate in placenta previa was rather surprising to us in view of the possibilities of infection which this complication introduces. The one case lost in which cervical scar tissue was an indication, was a patient admitted after a mismanaged labor of twenty-four hours, who died

suddenly on the table, unquestionably from embolus, as the last sutures were being tied. Both patients with fibroids died; one was admitted definitely infected, after a neglected labor whose duration was not stated; in the other, the operation was elective, myomectomy was done also, and death followed from acute dilatation of the stomach.

Table XIII analyzes, so far as the records permit, the maternal mortality according to the duration of labor, the rupture of the membranes, and the previous examinations and vaginal manipulations. In spite of the lack of complete figures, it is quite apparent that the death rate in Cesarean section increases in direct proportion to the length of time the membranes have been ruptured, the number of vaginal examinations, and the attempts at previous delivery. In twenty of the twenty-four cases in which labor had not begun (five-sixths of the total) the indications were mainly eclampsia and death was attributable to this cause.

Table XIV is an analysis of the fetal mortality. One striking point is that the comparatively low maternal death rate in placenta previa, less than 10 per cent, is more than offset by the very high fetal mortality, nearly 40 per cent, more than half of which could be attributed to prematurity. Four of the six cases of premature separation of the placenta resulted in dead babies, as did seven of the twelve cases of toxemia, and 20 per cent of the babies born of eclamptic mothers were either stillborn or lived but a few hours. More than 36 per cent of the total fetal mortality occurred in premature infants. It should be emphasized also that while certain developmental errors are impossible to diagnose before delivery, as for instance the case of congenital fetal anasarca in this series, when such conditions as hydrocephalus and anencephalus are diagnosed beforehand, Cesarean section is not warranted from the standpoint of the child, while it adds materially to the mother's risk.

Table XV is a statement of the maternal and fetal mortality over the six year period. Although the maternal mortality is still very high, and indeed out of all proportion to the risk which the average abdominal operation should carry, and although the fetal mortality is still beyond the average, both have shown a gratifying decrease in recent years, a decrease which undoubtedly is attributable to the wiser selection of cases, the choice of safer methods in infected patients, and the elimination of eclampsia as an indication.

Table XVI, which shows the comparative figures at Charity Hospital for the last ten years, we believe may be considered fairly representative of the general situation in New Orleans. In 1919 and again in 1921 the high water mark of Cesarean incidence was attained; since then it has been steadily dropping, and for the last four years it has been in the neighborhood of 1 per cent, which is below the incidence of the average clinic. During those same years the gross maternal and fetal death rates have shown progressive decreases, and we believe this not only indicates that few if any patients are being deprived of the operation if it is honestly indicated, but also that the wiser selection of cases, plus the elimination of eclampsia as an indication, plays a decided part in this improvement.

CONCLUSIONS.

1. If these figures are correct, the profession in New Orleans is to be congratulated, since the local incidence of Cesarean section is considerably under that reported from most other clinics.

2. In view, however, of the exceedingly high mortality of the operation generally, and because of the fact that even elective section carries a definite and inevitable risk, it is not an operation to be performed except on strict indications.

3. These figures further confirm the already established fact that operation on promiscuous indications, and particularly

in neglected cases, after rupture of the membranes and vaginal manipulations, carries a very high maternal and fetal mortality.

4. Since the figures for the last ten years at Charity Hospital, which may be taken as typical, show that the gross maternal and fetal mortality have been progressively lowered, it would not seem, in spite of the progressively lower incidence of Cesarean section, that patients are being deprived of this operation when better results could be achieved by it than by vaginal methods of delivery.

5. The fact that both the maternal and fetal mortality after Cesarean section have shown a gratifying decrease in the last three years may be attributed to a wiser selection of cases, the occasional employment of the Porro operation in grossly infected cases, and the routine employment, on certain services at least, of the low cervical operation (laparotrachelotomy) in potentially infected cases.

6. In view of the comparatively low mortality following the Porro operation in grossly infected cases, it would seem the part of wisdom to employ it in such cases, when vaginal delivery is impossible, even with a dead baby.

7. In view of the fact that the thirty-one cervical Cesarean sections (laparotrachelotomy) performed in this series had a zero maternal mortality, even when infection was undoubtedly present, it would seem wise for surgeons contemplating Cesarean delivery in the future to familiarize themselves with its technique, especially as the convalescence is almost invariably smoother than after the classical operation.

8. In view of the fact that, given a fairly normal pelvis, the average case of malposition (breech, transverse, occipitoposterior, etc.) can be delivered satisfactorily by the vaginal route, it is not ap-

parent that malpositions per se furnish an adequate indication for Cesarean section.

9. In view of the extremely high fetal and maternal mortality for eclampsia when Cesarean section is done in the convulsive stage, this indication cannot any longer be considered a justifiable one, particularly as the gratifying improvement in the maternal mortality, at least, in recent years, is undoubtedly due to its elimination as a routine indication.

10. In view of the fact that the death rate among premature infants in this series is over 36 per cent, it would seem that the mother's safety should be the paramount consideration in deciding upon the treatment of any complication of pregnancy before term, and that the child should be only a secondary consideration.

11. While the comparatively low maternal death rate in placenta previa, three out of thirty-three cases, suggests the wisdom of its use occasionally, provided infection be definitely eliminated, the high death rate among infants thus delivered suggests that Cesarean section should seldom be performed in the interest of the child unless the patient is at or near term, and that the mother's safety should be the paramount consideration in deciding upon methods of treatment.

12. Since rupture of the previous scar in subsequent pregnancies is a real possibility, the incidence being variously estimated at from 4 to 18 per cent, according to the method of calculation (8 per cent in this series), the risk to which the patient is subjected by this catastrophe should always be borne in mind when various modes of delivery are being weighed.

13. The fact that only three operations in the entire series were done under local analgesia suggests that it might be well to advise a wider employment of this type of anesthesia, particularly in debilitated and toxic patients.

RECOMMENDATIONS.

1. A maternal death rate of even 10 per cent is too great a risk to which to expose parturient women, and we would suggest that careful consideration of the following points in every instance in which Cesarean section is contemplated will aid materially in reducing it:

a—Operation only on strict and established indications.

b—Consideration of the possibilities of vaginal delivery before abdominal delivery is decided upon in the non-elective cases.

c—Strict differentiation of cases into infected and non-infected, the former being handled by the low cervical (laparotrachelotomy) or the Porro operation, according to indications.

d—Delivery by the vaginal route in those cases where the complication of pregnancy

which demands prompt evacuation of the uterus may be handled with equal safety to the mother by this method, particularly when the child is premature and its viability doubtful.

2. We would suggest to the staffs of the various hospitals the use of a form (table XVII) similar to the one employed in this study as an integral part of each Cesarean record, and we would further suggest that the supplying of all the details thereon be made the responsibility of the operating surgeon in each case.

Respectfully submitted,

EDWARD LACY KING, M. D., *Chairman.*

JOHN F. DICKS, M. D.

HILLIARD E. MILLER, M. D.

PETER B. SALATICH, M. D.

THOMAS B. SELLERS, M. D.

H. VERNON SIMS, M. D.

CHARLES A. WALLBILICH, M. D.

Committee.

TABLE I.

Hospital	1921	1922	1923	1924	1925	1926	Total	Rate
Baptist								
Cesareans .....	.....	.....	.....	.....	.....	6	6	.....
Deliveries .....	.....	.....	.....	.....	.....	213	213	2.8
Charity								
Cesareans	24	16	8	12	12	15	87	.....
Deliveries	917	994	1097	1298	1358	1453	7117	1.2
Hotel Dieu								
Cesareans	5	14	2	4	10	9	44	.....
Deliveries	420	294	472	535	597	537	2855	1.5
Mercy								
Cesareans .....	.....	.....	.....	2	9	4	15	.....
Deliveries .....	.....	.....	.....	115	172	223	510	2.9
Presbyterian*								
Cesareans .....	.....	9	6	6	5	4	30	.....
Deliveries .....	.....	87	146	141	113	63	550	5.4
Touro								
Cesareans	21	18	11	16	21	22	109	.....
Deliveries	482	493	591	668	892	919	4045	2.7
Flint-Goodrich								
Cesareans	2	2	.....	.....	3	.....	7	.....
Deliveries	25	32	42	42	51	45	237	3
Woman's Dispensary								
Cesareans .....	.....	.....	.....	2	.....	.....	2	.....
Deliveries .....	.....	152	122	180	163	179	796	.025
Total								
Cesareans	52	59	27	42	60	60	300	.....
Deliveries	1844	2052	2470	2979	3346	3632	16323	1.8
New Orleans Deliveries	10086	10162	10268	10870	10139	10441	61966	.000484

*13 Cesareans performed at this hospital in 1921 have not been included in this report for lack of sufficient data.

TABLE II.

<i>Age</i>	
Youngest	13(2)
	15(2)
	16(2)
Eldest	45(2)
20 to 35	75.8%
<i>Parity</i>	
Primiparae	55.8%
Para 14	1
<i>Stage Gestation</i>	
5 months	1
(placenta previa, Porro)	
Term	81.4%

TABLE III.

<i>Type Previous Labors (Abnormal)</i>	
Forceps	(1 to 4) 36
Version	5
Stillbirths	(1 to 4) 35
Craniotomy	(1 twice) 4
Prolapsed cord	(same patient) 2
Cesarean	(5 twice) 50

TABLE IV

<i>Number of Surgeons</i>	60
Highest number	27(1)
	26(2)
One each	20

Technique

Classical	175 (72.0%)
Cervical	31 (12.7%)
Porro	10 (4.2%)
Miscellaneous	27 (11.1%)
Not stated	48 (16.5%
	of total)

Length of Operation

Longest	105 minutes
Shortest	15 minutes
Average	47 minutes

Other Operations

Resection tubes	32 (11%)
Myomectomy	1
Complete hysterectomy	1
(Carcinoma cervix)	
Appendectomy	1
(eclampsia)	

TABLE V.

<i>Position</i>	
Not stated	52.9%
Vertex	(of those stated) 75.9%
Transverse	(of those stated) 10.2%
<i>Measurements</i>	
Not stated	50.2%
Not stated in contracted pelvis.....	33.6%
<i>Previous Scars—50</i>	
Ruptured	4
Inadequately described	10
Microscopic examination	2
Not mentioned	27

TABLE VI.

Duration of Labor

Elective	18.2%
Not begun	17.5%
Aseptic test	8.2%
Begun	50.0%
Doubtful	6.1%
Duration under 5 hours.....	6
Duration over 75 hours.....	2
<i>Examinations</i>	
Not mentioned	85
None (stated)	19
Rectal only	7
One examination	45
Nine examinations	1

Membranes

Not mentioned	262
Not ruptured (stated)	5
Ruptured	24
Under 5 hours.....	6
Over 45 hours.....	3

Previous Attempts at Delivery

Pack	(5 in 1 case) 7
Forceps	(1 high) 5
Version	2
Combined version	1
Craniotomy	1
Excision cervical tissue.....	(carcinoma) 1
Artificial rupture membranes	
(maternal hydramnios)	1
Douche	1
Manual dilatation	1
Bag	1
Pituitrin	1
(3 doses, previous Cesarean, rupture scar)	

TABLE VIII.

Indications

Contracted pelvis	107
Eclampsia	41
Other toxemias	12
Placenta previa	33
Premature separation placenta.....	6
Disproportion	16
Previous Cesarean	24
Malposition	14
Inertia—prolonged labor	28
Dystocia	3
Cervical scar tissue	10
Age, primiparity	(37 to 45) 9
Prolapse cord	2
Rupture uterus	1
Rupture Cesarean scar	4
Cardiac lesions	4
Old tuberculosis	2
Carcinoma cervix	1
Fibroids	(both died) 2
Impending uterine rupture	1
Exhaustion	2
"Obstructed outlet"	1

"Ossified symphysis pubis".....	1
Fetal anencephalus	1
Fetal hydrocephalus	1
Laparotomy during pregnancy	1
"Adhesions"	1
Obesity	1
Sacculation post. uterine wall.....	1
"Health wrecked by childbearing".....	2
Arthritis ankle	1
Patient's desire	1
Desire for sterilization.....	1
Abdominal pain	(7 months) 1
Previous obstetrical history.....	15
Not stated	2

TABLE IX.

Postoperative Course

Distention	36.9 %
Vomiting	27.4 %
Fever—	
Under 100	52
To 107	3
Beyond 3 days	63.5 %

TABLE X.

Complications (excluding deaths)

Pulmonary	9
Kidney and bladder	8
Dilated stomach	17
Postpartal convulsions	5
Postoperative vaginal hemorrhage.....	3
Parametritis	1
Vulvovaginal abscess	1
Retained lochia	1
Vaginal hematocele	(aspirated) 1
Sapremia	1
Staphylococcal endometritis	(curetted) 1
Phlegmasia alba dolens.....	5
Wound infection	11
Ruptured wound	1
Psychosis	1
Mastitis	2

TABLE XI.

Maternal Mortality (analyzed as to causes of death) 47—16.1%.

Peritonitis	6
Septicemia	3
Rupture uterus	3
Eclampsia	16
Toxemias	3
Placenta previa	1
Premature separation	1
Acute dilatation stomach	2
Pneumonia	1
Vaginal hemorrhage (postoperative).....	2
Heart lesions	2
Embolus	5
Doubtful	2
Total	47

TABLE XII.

Maternal Mortality (analyzed as to operative indications)

Contracted pelvis	(out of 107) 8
Eclampsia	(out of 41) 17
Other toxemias	(out of 12) 3
Placenta previa	(out of 33) 3
Premature separation placenta	(out of 6) 1
Disproportion	(out of 16) 1
Inertia—prolonged labor	(out of 28) 5
Cervical scar tissue.....	(out of 10) 1
Rupture uterus or scar.....	(out of 5) 3
Cardiac lesions	(out of 4) 2
Fibroids	(out of 2) 2
Not stated	(out of 2) 1
Total	47

TABLE XIII.

Maternal Mortality (analyzed as to duration of labor)

Elective	3
Test	1
Not begun	(mainly eclampsia) 20
Begun	23
Examined	(1 to 6 times) 15
Many others not stated	
Membranes ruptured	(stated) 4
Pack	1
Attempts at delivery—	
(forceps, version, craniotomy)	3
Fever at operation	2

TABLE XIV.

Fetal Mortality—55—18.9%.

Pelvic contraction—	
(1 attempted high forceps)	2
Eclampsia	(4 premature) 8
Placenta previa.....	(9 premature) 13
Premature separation placenta—	
(1 premature)	4
Neglected labor.....	(1 premature) 6
Congenital malformations—	
(1 X-ray diagnosis)	4
Toxemias	(4 premature) 7
Rupture uterus or scar.....	5
Tonic contraction uterus.....	1
Cerebral hemorrhage.....	(placenta previa) 1
Prematurity	1
Uterine fibroids	1
Doubtful	2
Total	(20 premature) 55

TABLE XV.

Total Mortality (by years)

	Maternal	Fetal
1921	22 %	20 %
1922	26.3 %	21.5 %
1923	11 %	22.2 %
1924	12.5 %	17.5 %
1925	14 %	14 %
1926	10 %	10 %
Total	16.1 %	18.9 %

TABLE XVI.
COMPARATIVE FIGURES 1917-1926
CHARITY HOSPITAL

Year	Deliveries	Cesareans	Rate	Maternal Mortality	Rate	Fetal Mortality	Rate
1917.....	676	13	1.9	17	2.5	97	14.3
1918.....	614	11	1.8	21	3	84	13.7
1919.....	581	30	5.1	12	2	74	12.7
1920.....	680	13	1.9	19	2.76	86	12.6
1921.....	917	24	2.6	28	3.05	107	11.7
1922.....	994	16	1.6	24	2.41	101	10.2
1923.....	1097	8	.073	27	2.46	132	12
1924.....	1298	12	.093	23	1.7	117	9
1925.....	1358	12	.088	23	1.69	109	8
1926.....	1453	15	1	15	1.03	119	8

TABLE XVII.
New Orleans Gynecological and Obstetrical Society.

Hospital	Patient's initials	Operator
Date of admission	Date of operation	
Date of discharge	Age	Parity
Stage of gestation	Position	
Character previous labors		
Pelvic measurements		
Indications for operation		
Stage of labor		
Previous examinations and attempts at delivery		
Anesthetic	Length of operation	
Technique		
Other operation at same time		
Indications for sterilization (if done)		
Post-operative vomiting	Duration	
Post-operative distention	Duration	
Maximum temperature		
What day post-operative		
Duration of temperature elevation		
Complications		
Maternal mortality		
Fetal mortality		
If second operation, describe condition of previous scar.		

DISCUSSION.

Dr. Jennings C. Litzenberg (Minneapolis): In endeavoring to make this discussion general and avoid comment on the figures, I am reminded of the old rhyme:

“Mother, may I go out to swim?
Yes, my darling daughter,
Hang your clothes on a hickory limb,
But don't go near the water.”

So I will discuss the report, but as requested won't touch upon the figures. I do not know whether they were afraid I would jump on them for the figures or not, so will eliminate them from

the discussion, but may I discuss methods of carrying out the recommendation? It is a significant fact that in the hands of well trained obstetricians the death rate is under 2% as compared with 16% in this report.

The first recommendation: That Cesarean section be done upon a definite indication or, I with the greatest temerity suggest, that the general surgeon and practitioner cannot properly judge in these instances since they have not the precise knowledge to determine all the facts. The general surgeon can do just as good an operation as the obstetrician, he might do better, but it takes a minute and exact study of the case to know whether or not the operation is indicated, else few of these operations would have been performed. Of all the methods of the treatment of eclampsia, Cesarean section is the worst. This has been repeatedly borne out by statistics. In 1922 in England an investigation was made. Their report that rarely is Cesarean required for eclampsia was simply a reiteration of the statement which Dr. Whitridge Williams had so often made prior to their investigation. Therefore, eliminating eclampsia and some of these other reasons given for this operation, in which it was obviously not indicated, the necessity for performing a Cesarean section become very much reduced. I think you are to be congratulated on your courage, in making such a Committee investigation.

Now, may I make a suggestion as to how to carry it out. I do part of my private work in a certain hospital where no one is permitted to perform a Cesarean without obstetrical consultation. The hospital makes that rule, the choice of the consultant is left to the one handling the case. A man walked into this hospital prepared to do a Cesarean. He had six assistants. When asked why he was going to perform this operation he stated that his patient had been sent to this hospital the night before by a country physician who had recommended Cesarean section in her case but the surgeon had not examined her. When told that he could not do it unless he consulted an obstetrician he got mad and left the hospital. Later I had all I could do to get there and catch the baby. That is a good rule.

A few days before I left a committee from another hospital asked me if I would become chief consultant at that hospital. I accepted on one condition—that no therapeutic abortion be done without two consultants and no Cesarean without consulting a trained obstetrician. One of our general surgeons, a good friend of mine, did a Cesarean. “You did not have any business doing that operation without a consultation,” I told him. He replied: “I was practising obstetrics before you graduated.” “Yes,” I said, “you are prac-

tising the same kind you learned before you graduated." He laughed and said: "You are right, every case should have obstetrical consultation and hereafter I shall follow your recommendation."

May I one more recommendation which I forgot to make at the end of my talk on endocrines? All of these fictions about the endocrines will gradually be replaced by facts, and while ovarian therapy in the human is not as satisfactory as it might be, we will discover the proper method. It may be a matter of years before this is accomplished, but I am convinced that sooner or later we will be able to concentrate our two kilos of ovarian substance into a tablet of sufficient potency to have a therapeutic value.

Dr. Ernest S. Lewis: While surprised at the number of Cesarean operations that are being performed since I have withdrawn from the obstetrical field, the reasons given for the performance of this operation are a still greater surprise. Was there no history of tedious labor in the shoulder and breech presentations in which this operation was adopted? As an obstetrician—it is true one who retired ten years ago and who has not kept up with the literature since that time—I must say that the operation is being very much abused. Something, as Dr. Litzenberg has just remarked, should be done in all our hospitals and no Cesarean should be permitted in them without consultation, with an obstetrician, not a surgeon. Surgeons are grasping. I remember when I began and developed gynecology—as one of the pioneers I did also a good deal of general surgery—my friends hinted (the surgeons I mean) that if I would confine myself to gynecology they would send me their cases. This they did for a few months until they learned how to perform these operations, then they included the female organs as part of their surgical work and the practice obtains to this day.

Knowing there are others not quite so archaic as myself who wish to discuss the subject, I will close my remarks.

Dr. C. Jeff Miller: We have suspected for some years that Cesarean section was being performed with unnecessary frequency, but it is only relatively lately that we have awakened, largely through such reports as this, to the real abuse of the operation. The obstetric indications for its performance are definitely established, and it is only among those who refuse to accept these indications, which have been built up by long experience, that the abuse is prevalent. It required, for instance, a long and painful experience to prove that the indications for Cesarean section in eclampsia were extremely limited, and that the mortality of the disease, plus the mortality of the operation, gave a death rate which practically prohibited its performance. The

mortality for eclampsia when treated by Cesarean ranges as high as 40 and 50 per cent, and conservative treatment has given a mortality, in some clinics, at least, as low as 3 per cent, which makes further argument unnecessary.

Cesarean section has also been abused in the management of placenta previa. If the patient is at term, if the bleeding has not been excessive, if she is a primipara, if one can eliminate infection, at least as introduced by unwise management, then Cesarean section may be justified in the occasional case. But placenta previa occurs most frequently in the multipara, before term, and the majority of these patients are infected, before they reach the hospital, by unwise management on the outside, so that in the average case an abdominal operation is definitely contra-indicated, quite aside from the fact that other methods of treatment give better results.

I note from the report that 11 per cent of these patients were sterilized, which at once raises the question of when this procedure is justifiable. It is my own practice never to sterilize a patient after her first section unless some serious constitutional disease or organic lesion makes future pregnancies unsafe. After the second section, if the first child is living and well, and it is the wish of the husband and wife, I think sterilization is justified. It is well, however, not to be too radical in this matter, and it is particularly unwise to advise resection of the tubes after the first section. Three times within the last two years I have been consulted by women whose tubes were resected after their first Cesareans; in each instance the first child died later, and all of these women were desperately eager for other babies.

Since the introduction of the low technique the indications for Cesarean section have safely been widened. For the last three years I have used this technique almost exclusively, and I have had no fatalities. Among these patients were some women advanced in labor, who, I am sure, would have died had the classical operation been employed. In all cases the convalescence is smoother. One point which cannot be emphasized too strongly, however, is that the good results of Cesarean section do not depend upon the technique alone. The reduction in mortality has been due partly to that, I admit, but it is due even more to the proper selection of cases. It is only by recognizing obstetric problems during the latter half of pregnancy and choosing the type of delivery to fit the situation that uniformly satisfactory results can be attained. If one studies the figures for Cesarean section collected from general hospitals and outside of well organized maternity services, one realizes the un wisdom of its reckless performance, for the mortality is such as to

place it among the most serious of abdominal operations.

Dr. E. L. King (closing): We have found that the adoption of the conservative method of treating eclampsia has reduced our mortality rate 1 to 8%. Regarding malposition, of itself, it certainly is no indication for Cesarean section—when complicated by a contracted pelvis, that is a different story. I believe that where malposition alone was given as the reason for this operation it was a question of a faulty record. Our survey shows that our records are capable of improvement, that they have improved considerably of late, and that there is still room for further improvement. More especially does this apply to the private hospital. The same thing, however, holds good in reviewing any set of records.

Sterilization, as Dr. Miller mentions, is something of importance. It is certainly the proper thing to do where a definite lesion of the heart, kidney, etc., exists. In other cases, where the indication is not clear-cut, differences of opinion regarding this procedure will obtain. When sterilization is contemplated it might be well (before it is performed) to obtain the written consent of husband and wife, this to be filed with the chart; later they might change their minds and want to know why it was done.

With regard to the closing of scars, Herbert Spencer says that he discontinued the use of catgut twenty years ago and uses interrupted sutures of silk, so that we must be twenty years behind the time. It is not so much a question of the closure or of the material, but rather the choice of the patient beforehand: a clean case will give a clean scar; an infected case will probably give an infected scar.

Low cervical section, we believe, is worthy of further trial, particularly in the infected cases. So many cases have been of the type where we could not use the classical section, *e. g.*, cases of contracted pelvis with ruptured membranes, and already infected, and we simply went ahead in the past with vaginal delivery as best we could, but since the low section has come into vogue we have used it in these cases and have been successful with it, saving both the mother and the child. In the cases of placenta previa the mortality of three out of thirty-three was rather low, but the fetal mortality was considerably higher. In placenta previa, at or near term, Cesarean section is generally indicated; most of the others can readily be handled by the vaginal route with good results. Particularly in the case of a primipara with a living baby at or near term and, of course, with freedom from infection, the indication is for Cesarean section. In such cases we would use the high operation rather than the low.

NON-SPECIFIC UPPER RESPIRATORY INFECTION IN CHILDREN.*

W. R. GRAVES, M. D.,
MEMPHIS, TENN.

This is a rather common subject, but since 1921, the mortality from this disease has exceeded that of diarrhoea, so it is well that it be given due consideration. Abt states that the increase is one of the penalties of civilization, and we know that in the last ten years while medical science has been reducing the mortality of diphtheria, typhoid fever, scarlet fever, and malaria, that, as for the respiratory infections, they have greatly increased.

This condition has been called a multitude of names according to location—otitis, bronchitis, laryngitis, tonsillitis, acute coryza, lagrippe, throat infections and upper respiratory infections. The word, "non-specific" is used to eliminate Vincent's angina, scarlet fever and diphtheria.

I find that this disease constitutes about 50% of my practice.

The general public does not fear the average infection of this kind, and often we do not see the original case, but one of the many serious complications or sequelae that may follow it.

ETIOLOGY.

So far no one has been able to isolate any specific organism, as the cause of this condition. We know that, about the 12th hour in a baby's life a culture shows a variety of germs. The culture from a normal throat shows staphylococcus, albus, aureus, citreus, pneumococcus, bacillus influenza, Friedlander's bacillus, micrococcus, catarrhalis, non-hemolytic streptococci. No bacteria have been found in the early stages of the disease to which a causative role could be assigned.

*Read before the North Mississippi Six Counties Medical Society, Oxford, Miss., November 10, 1926.

Late in the infections, secondary invaders, staphylococcus aureus, hemolytic streptococcus, bacillus influenza, have been found in large numbers, especially was there a striking increase in the hemolytic streptococci.

There is no doubt that respiratory infections are about as contagious as measles, going through families and groups, and the disagreeable part of it is that instead of one case giving an immunity, it appears that one attack, predisposes one for a second and third attack, that is, if there is any immunity given from the disease it lasts only a few weeks.

A number of conditions appear to increase the number and virulence of this infection. Statistics from three-fourths of a million respiratory infections show that with a cold winter this disease increases 2 to 8 times, and in an exceedingly cold winter we treat three times as many children for this disease as in ordinary winter. Experiments on animals have proven that colds are worse in cold weather.

Some of the conditions that increase attacks of this disease are changes of atmosphere, prolonged exposure, excessive cold, disproportion in temperature and humidity, exposure of the body to different temperatures to that which you are breathing, changes of clothing, injuries and irritation of mucous membrane by smoke, dust and chemicals. There appears to be a decided individual and familial susceptibility. The common remark of "catching cold" is a very apt expression for there is no doubt that the throat and nose of children are lined with pathogenic organisms that are harmless under certain conditions, but with our modern room temperature, varying from 70 degrees to 80 degrees F. it takes considerable natural resistance from our patients, and thus any of these changes previously mentioned may allow the organism to gain a foothold and set up the disease.

When we lived in huts with the wind blowing through the cracks, and wore few clothes, we called constantly on nature to protect us and she answered our call, but now with our modern apartments and modern heating when we do call on nature, she knows us not, and fails to respond.

Whether these infections are acquired, endogenously or exogenously, all of them seem equally contagious.

We have these infections throughout all the year, though they are much more numerous in the colder months.

SYMPTOMS.

The large majority of these cases run a rather mild course. We have evidence of a sore throat, fever, running nose, cough, aching, and slightly enlarged cervical glands. The patient may not feel badly, often neither patient or mother realizes that the throat is sore. The fever will vary from 99 to 106 F. The mild cases generally last from 3 to 5 days.

This infection may set up with a convulsion and ranks with digestive indiscretions in causing a large percentage of convulsions in children.

We might divide these infections into, first: The mild cases; second, the serious cases. The serious cases we would divide into (a) the localized infections; (b) those spreading by continuity and contiguity to adjacent tissues; (c) systemic, and by bacteria and toxins, it may affect pathological changes in most any part of the body.

Often these serious local infections will come into the City Hospital; symptoms of running nose, red throat, tonsils enlarged, ear drums red, a few scattered mucous rales in chest, temperature, 104, respiration, 40, and on first examination, receive a diagnosis of broncho-pneumonia. The next morning temperature is normal, then back to 103, and it only receives diagnosis of upper respiratory infection, after a negative smear for malaria, negative urine,

negative x-ray of chest and negative chest clinically. Some of these cases may persist with rise of temperature for several months, without finding the location of the infection.

It may spread by continuity and contiguity in the throat and in older children produce a peritonsillar abscess. It may set up a retropharyngeal adenitis, with loud, moist, snoring obstruction to breathing—retracted head, absence of rigidity, unilateral cervical adenopathy. Cervical adenitis is often present in these infections, and in some epidemics the gland commonly suppurates. The glandular fever would come under this infection.

In many of these cases the ear drums are red and inflamed and otitis media is rather common with a certain proportion of mastoids. The infection may further spread, giving us a meningitis or an encephalitis.

It is only in the past few years that we have realized that it is very common for the infection to extend into the frontal maxillary, ethmoid and sphenoid sinuses, and these foci of infection are often the foundation for a chronic arthritis, nephrosis or parenchymatous nephritis.

From the throat, infection spreads down the trachea, often giving us a cough that lasts for weeks. It may extend further, giving us a bronchitis, broncho-pneumonia, pleurisy, empyema, lung abscess.

The infection may show itself as a stomatitis and we have gingivitis, redness, swelling, spongy and bleeding gums, with ulcers on lips, cheek and tongue. The conjunctiva is often the location of the infection.

One of the most common forms of this infection is the gastro-intestinal type. The child is vomiting, often a diarrhea is present, temperature 99, red throat. This receives the name of intestinal influenza from those who are prone to loose talk. What we have is ketosis; the germ has interfered with the digestion, and there is an

excess of diacetic and oxybutyric acids, these combining, with sodium bicarbonate to lower the alkali reserve. This condition is often called biliousness, and receives a purgative, when it should have received large amount of fluids, water, orange juice, dextrose, pineapple juice, tea, toast, and cereals. No milk should be given for 24 hours, and then the cream should be removed.

In fact, the average so-called bilious attack generally means that this infection has localized as a foci in kidneys, tonsils, sinuses and other seats of chronic foci.

(c) In the third group of cases, we would include all cases in which there are symptoms referred to distant parts of the body, due to bacteria or to their toxins that have invaded the blood stream.

Under this head we have arthritis, osteomyelitis, nephrosis or nephritis, pyuria due to cystitis, pyelitis, pyelocystitis, pyelonephritis. We have also conditions involving the heart which may include endocarditis, myocarditis, pericarditis and chronic valvular disease. In the brain we may have embolism, thrombosis, encephalitis, meningitis, and abscess through invasion of the blood stream. The skin may give us urticaria, streptococcus infection, and a rash resembling very much that of scarlet fever often called the "flu rash." Appendicitis and peritonitis are sometimes the result of spread of this infection. The many cases of parenteral diarrhea are generally secondary to upper respiratory infection or its complications.

A very peculiar point about this infection is that the respective types appear to select some special location in the epidemics; that is, this week we have sore throats, next week otitis media, then again vomiting or diarrhea and vomiting, or they all may be systemic, with practically no localization, then a series of croups, or a series of more serious complications of meningitis, encephalitis, mastoiditis. There must be a number of different germs caus-

ing this condition, and there is a great variation in the virulence.

DIAGNOSIS.

In most cases diagnosis is easy, although sometimes it is very difficult.

There is sore throat, cough, running nose. The condition is generally epidemic, members of a family have same symptoms. The series of complications such as otitis media, cervical adenitis, laryngitis, is secondary to this infection. Conjunctivitis, pyelitis, arthritis, gingivitis, petechial hemorrhages are suggestive.

This respiratory infection is not considered influenza, for we would hardly have an otitis media, stomatitis, tonsillitis, croup and real influenza in same family at the same time.

Brennerman states that "Influenza could well be looked upon in this connection as simply a peculiarly virulent and in epidemic form, characteristic infection of the type here discussed, that is, probably, due to one organism or association of organisms that is specific at least for each pandemic."

TREATMENT.

Prophylaxis includes proper diet of children in first few years of life. We find that children who have an excess of carbohydrates are predisposed to respiratory diseases.

Reduce the temperature in the house from 80 degrees to 68 or 70 degrees F. and keep the child out of doors as much as possible, at least two or three hours a day, except in very damp or windy days. It is a fact that children from the wealthy homes, who are protected from many diseases have more than their proportion of respiratory infections, due to their becoming hot house plants.

Keep up the vitality of the children. Often after one of the respiratory attacks, the infection localizes in kidneys, sinuses or elsewhere, and is allowed to remain as a foci. This child is underweight, anemic, has poor appetite and needs more attention than a child with temperature 102, for in that first case, nature has fallen down on the job and unless parents and doctors come to the rescue and bring the child back to normal, the child will be affected for life; while in the second case, nature will probably take care of the case in a few days.

Keep these cases separated from intestinal infections in hospitals, for often they come in as internal infections and go out with parenteral infection. Only a few weeks ago a post mortem on a difficult feeder gave us a double mastoid as the cause of death.

See that the children get enough of sunshine; if deficient in this, wherever possible, ultra violet should be used. All institutions for children should have ultra violet light, and it should be used routinely on subnormal children.

Give cod liver oil routinely from November to April, as it builds up the system, and cuts down the number of respiratory attacks. Vaccines do not give us sufficient results to recommend their use.

Adjust the clothes of the child to weather in this variable temperature.

As school inspector in Memphis, I have seen many children bundled up on a warm day in January, suitable for weather 40 degrees F. lower, and as a result every pore of the skin was open, inviting the disease.

They should wear less underclothes and more wraps, less woollen and more mixed goods, or cotton. Give nature a chance.

Adenoids should be removed whenever we have mouth breathers, poor appetites, malnutrition, repeated infections, deafness, nervousness or other like symptoms.

Now, as to tonsils, they were put there for the purpose of protection to the system, and they should only be removed when they have changed from an asset to a liability, and this cannot be judged by the size. In fact, the pediatrician or general practitioner who has had the child under his care, who sees him before and after attacks, and who knows whether there are other conditions present that might be attributed to the tonsils, is the party who is competent to decide.

It is not best to remove tonsils before the age of four, but this rule should be broken under certain conditions.

Do not promise that this will end the respiratory attacks for it will not. I believe that it reduces the number and sometimes shortens the duration of the attacks.

In the active treatment of these cases, I will only mention cardinal points of treatment of primary infection.

Put patient to bed early and keep them there. Do not purge. You may keep the bowels open with magnesia or enema.

Give fluids freely. Salicylate in form of aspirin may be given with syrup of orange and mucilage of acacia.

I believe that painting throat with 5% mercurochrome aids in these cases though some authorities do not agree. Nose drops of camphor and menthol in oil solution keep nose open and make patient more comfortable.

Temperature may be controlled with tepid sponges.

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COMPLICATIONS INCIDENT TO THE OPERATIVE TREATMENT OF INFLAMMATORY DISEASES OF THE GALL-BLADDER.

AIME PAUL HEINECK, M. D.,
*Surgeon to the Frances Willard, Lakeside, St.
Paul and Washington Park Hospitals*

CHICAGO.

During the last ten years, great advances have been made in the diagnosis and operative treatment of diseases of the gall-bladder and bile-ducts. Further development evidently is possible in diagnostic precision, timeliness and completeness of operative relief and obviation of recurrences. The unflagging inculcation of established facts and the combined efforts of internists, surgeons and laboratory workers have given us a more detailed understanding of the etiology, symptomatology, anatomical evolution and therapeutic indications of the various pathological processes of the biliary tract. Cholecystitis, acute and chronic, and its manifold complications call for operative relief. In the early stages of the disease, surgical therapy judiciously applied, will cure 66 per cent and improve 34 per cent of the cases which survive the procedure.⁽⁸⁾ The study of the pathological processes of the upper right abdominal quadrant and of the operative procedures most suitable to this region has received a marked impetus from the beneficent results attending early operations. In inflammatory diseases of the gall-bladder and biliary passages, medicinal measures are almost always purely palliative; they are not curative. Dietetic, hygienic, physio-therapeutic and medicinal measures should precede, accompany and supplement the operative treatment of cholecystitis and its complications. To this dictum there should be no exception.

Gall-stones, irrespective of size, number, nature and location, lodged or impacted in the gall-bladder, in the cystic, hepatic or

common duct, or in a diverticulum, call for early operative removal. All collections of pus within the gall-bladder, bile-tracts or in juxta-position to the biliary system, call for early operative evacuation.

For the relief of cholecystitis, cholelithiasis, obstruction of the cystic duct, pericholecystic adhesions, etc., two operations, cholecystostomy and cholecystectomy, are generally performed. These two operations, judged by the results obtained, possess merits and have their respective indications,⁽⁵⁾ limitations, difficulties of performance, operative and post-operative accidents, morbidity and mortality.

Greater precision in diagnosis, early and timely operations, better operative technic and judicious pre- and post-operative management of gall-bladder diseases have extended the indications of cholecystectomy, lessened its operative difficulties, improved its immediate and remote results and contributed to its more frequent performance. The mortality attending timely gall-bladder operations, properly performed, is, at the present time, almost negligible. "During the eleven months from November 1, 1915, to October 1, 1916, we performed 776 cholecystectomies with a mortality of 1.77 per cent."⁽¹⁾ "The mortality following cholecystectomy in the treatment of cholecystitis with or without stones is low, only 1.8 per cent in 2460 operations performed during the period of three years."⁽²⁾ "Forty-five cholecystectomies were performed for acute cholecystitis, with no deaths, and twenty-two cholecystostomies, with one death. There were eleven deaths in 890 cholecystectomies for chronic inflammation in the gall-bladder."⁽³⁾ We feel confident that additional improvement is feasible. The best time to operate for the cure of gall-bladder and bile-duct disease is before the advent of irreparable anatomical changes. At this stage, the mortality should be less than 1 per cent⁽⁶⁾ and complete recovery the rule. Cholangitis, choledochitis and

common duct stones are late and serious complications, difficult of operative relief and sometimes fatal.

In this article we discuss the following operative and post-operative complications incident to surgery of the biliary tract:

- (a) Incomplete disappearance of symptoms and recurrence.
- (b) Post-operative adhesions.
- (c) Operative and post-operative hemorrhage.
- (d) Post-operative external fistulae (operative bile-duct injuries).
- (e) Post-operative biliary peritonitis.

INCOMPLETE DISAPPEARANCE OF SYMPTOMS AND RECURRENCES.

In acute or chronic cholecystitis, primary or secondary, calculous or non-calculous, early or late, isolated or associated, the paramount indications are to arrest infection, remove inflammatory products, correct existing anatomical changes, restore liver function to normal, nullify the effects of disease sequelae and prevent the return of inflammatory disturbances. The avoidance of post-operative distress in all cases is more than one can reasonably expect.

By instituting operative relief at the onset of the disease, when the inflammatory process is still limited to the gall-bladder or before it has seriously involved, damaged or crippled any contiguous organ, one is far more likely to secure a complete and permanent disappearance of symptoms. The ideal time to operate is while the condition, local and general, of the patient is good. Early operation is easy of execution and forestalls complications; delay invites disaster. Delay permits the development of dangerous local and regional complications, viz: cholangitis, perforation, pancreatitis, common duct obstruction, etc., and may induce remote disturbances (vascular, cardiac and arthritic). The chief avoidable technical causes of

incomplete cure are: Defective or improper technic; undue operative trauma; lack of thoroughness in the digital and instrumental exploration of the bile-ducts. In most instances, common-duct stones can be detected by introducing the finger into the foramen of Winslow and milking the choledochus between the fingers. No doubt, some recurrences are due to a calculus or calculi overlooked at the previous operation.

Diseases of the right hypochondriac and epigastric regions are insidious in development, are frequently unrecognized, not uncommonly misdiagnosed and often come to the operating table too late to be completely and permanently relieved. Tardiness of operative treatment is the main cause of incomplete cures and of recurring symptoms. The cases with advanced pathology are those that present a stormy post-operative course.

The increased popularity of cholecystectomy (84 per cent of patients after cholecystectomy are free from all symptoms⁽⁴⁾) is due to the fact that cholecystostomy often gives only incomplete and temporary relief. A successful cholecystectomy, followed by appropriate medical treatment, cures disturbances directly dependent on disease processes limited to the gall-bladder, prevents the extension of inflammation from this organ to contiguous organs and exerts a beneficent influence on local and regional inflammations due to or maintained by it: Hepatitis, pancreatitis, duodenal ulcerations, etc. A retained diseased gall-bladder is a frequent cause of ill-health and a potential source of future trouble. It is a decided factor in the recurrence of gall-stones, of infective inflammation and in the persistence of local and regional symptoms such as pain, indigestion, etc. Obstructive jaundice, either intermittent or chronic, developing after cholecystostomy is due to a stone or stones overlooked or reformed in the gall-bladder, lodging in the common bile-duct, to stricture or kinking of the choledochus, to

fibrosis and traction of an adherent contracted gall-bladder, etc.

Deaver⁽⁷⁾ states that 65 per cent of his recurrences could have been prevented by removal of the gall-bladder. Cholecystectomy often gives brilliant immediate results and eliminates the annoyance and discomfort incident to prolonged post-operative drainage. After cholecystostomy, the persisting symptoms are due to residual pathology; after cholecystectomy, they are mainly of mechanical origin and often result from operative trauma. Careful examination of the cystic, hepatic and common ducts and the systematic removal of any duct obstruction, calculous or inflammatory, secures better results. The removal of all foci of infection, proximal or distal to the hepatic system (tonsillar, dental, duodenal, appendiceal, colonic, etc.), is essential to perfect health. Appendectomy is nowadays almost a routine procedure when operating on the biliary tract.

The physiology of the biliary system is intricate and our knowledge of the functions of the gall-bladder is as yet incomplete and indefinite. Therefore, the gall-bladder should never be removed in the absence of positive indications or if it be highly probable or evident that "it can come back." Though the human body, owing to its great power of adaptation, compensates for the loss (by disease or by removal) of the gall-bladder, the needless sacrifice of this organ is a mutilation and can lead to invalidism; it may prove fatal.

In a large number of cases recovery is gradual. In others, even in the hands of the most experienced and irrespective of the type of operation performed, permanent and complete relief is not obtained. The persistence and recurrence of symptoms are due to the patient's nervous instability, the existence of long-standing and advanced pathological changes not admitting of operative correction or removal, such as hepatitis, pancreatitis, etc., adhesions, operative injuries, inadequate pre-

and postoperative treatment and metabolic disturbances. "Pancreatitis associated with or secondary to cholelithiasis has recurred after cholecystectomy and led to pancreatic cyst-formations."⁽⁹⁾ A thorough knowledge of the technic and the respective indications and limitations of cholecystostomy and cholecystectomy will enable the operator to remove and obviate most of the frequent causes of incomplete relief, such as impaired motility, elasticity and contractility of the gall-bladder, strictures or kinks of the cystic duct, adhesions of the pylorus, transverse colon or omentum to the gall-bladder or liver, duct obstruction, etc.

POSTOPERATIVE ADHESIONS.

After gall-bladder and bile-duct operations, patients often complain of symptoms referable to adhesions existing between the gall-bladder and neighboring viscera. The operator must aim to minimize as much as possible the formation of peritoneal adhesions. In 3000 abdominal operations, symptoms manifestly due to postoperative adhesions were present in from 10 to 12 per cent of cases; in 3½ per cent of these, operative relief was necessary (Payr¹¹). It is important to differentiate between the pain, tenderness, mechanical interference and other symptoms caused by adhesions of operative and postoperative origin and the neuro-psychogenic symptoms of postoperative neuroses, between adhesions, inflammatory in nature and congenital peritoneal folds. Postoperative peritoneal adhesions, irrespective of nature or location, are due to such factors as: Infection, intraperitoneal hemorrhage, mechanical and chemical injury of the serosa, denudation of peritoneal surfaces, foreign bodies, such as gauze-drains, drainage tubes, etc.

Postoperative cholecystic and pericholecystic adhesions may follow simple as well as difficult operations. They are occasionally symptomless. Usually, they are provocative of persisting discomfort, permanent dysfunction and chronic obstructive dis-

turbances. Patients with many pericholecystic adhesions can seldom be made entirely free from symptoms. Adhesions, by kinking or compressing the cystic or common duct, impede the flow of bile; biliary colicky pains and other distressing symptoms may result. When adhesions angulate or drag on the pylorus and duodenum, gas distress, gastric distension, spasm, vomiting and other digestive disturbances are likely to follow. Omento-cholecystic adhesions exerting traction on the greater curvature provoke painful gastric peristalsis.⁽¹⁰⁾ The fixation by scar tissue of the pyloric end of the stomach or of the hepatic flexure of the colon to the liver is a not infrequent cause of gastric disturbances.

Innumerable methods and substances—liquid vaseline, sterilized olive oil, normal salt solution and non-absorbable membranes, such as rubber dam, collodion, oiled silk, etc.—have been recommended to limit, to prevent the formation of peritoneal adhesions. They have all been found wanting. In the present stage of our knowledge, surgeons are not justified in using any of these agents in the peritoneal cavity. The absolute prevention of peritoneal adhesions is as yet an unsolved problem.

Adhesions are a frequent cause of incomplete relief, of failure to cure, of recurring inflammatory and obstructive disturbances; all factors leading to adhesion formation are to be studiously eliminated. Adhesions being infectious, inflammatory and traumatic in origin, their incidence as to frequency and extent can be minimized by the practice of strict asepsis, the observance of great gentleness in all operative manipulations, the infliction of minimal damage to the tissues and the adoption of the technic most appropriate to the case at hand. We will also avoid such contributory causes as the use of chemical irritants, needless handling and exploring of organs, the undue exposure of the serosa to the air.

We will endeavor to reduce intraperitoneal hemorrhage to a minimum, to limit, as to duration and amount, gauze or tubular drainage to the bare desideratum and to cover with peritoneum all denuded surfaces. It is needless to say that the surgeon should operate with the greatest speed consistent with the patient's safety and thoroughness of execution. Chemicals, tincture of iodine, Dakin's solution, etc., cause the formation of adhesions by destroying the frail endothelium of the peritoneal surface. To inhibit the prolonged contact of denuded peritoneal surfaces, some advise the stimulation of peristalsis by purgation; others recommend that the patient's position be frequently changed.

Timely removal of gall-bladders presenting pathological changes minimizes the incidence, often prevents and suppresses cholecystic adhesions; it gives access to pericholecystic adhesions and may enable the operator to remove or forestall their sequelae. Nevertheless, the indiscriminate removal of the gall-bladder is unsurgical, dangerous and is to be condemned. Cholecystostomy, with its associated prolonged drainage and possible escape of bile into the wound, leads to the formation of adhesions. Early removal of drains, gauze or tubal, is desirable. Bile-soaked drains excite the production of dense adhesions.

The removal of shrunken, atrophied, contracted gall-bladders or of those embedded in adhesions is difficult and leaves a raw surface which should, if feasible, be covered with an omental graft or by peritoneum. As much as possible, cover with peritoneum the fissure in the liver left by the removal of the gall-bladder and all other denuded areas and thereby obviate to a very large extent the occurrence of troublesome adhesions. One or two fine catgut stitches joining the lesser omentum to the mesocolon, or fastening the great omentum into the hepatoduodenal angle, walls off dangerous raw surfaces and may

insure against the attachment of adhesions to the more sensitive pylorus or duodenum. Dr. C. H. Mayo says: Avoid annoying and permanent disturbances "by forming your own adhesions," by bringing up and placing the great omentum between the liver and the contiguous denuded areas.

In cholecystostomy, the drainage-tube having been brought through the abdominal wall, preferably through a stab wound, the gall-bladder is dropped back to its normal position; thereby a source of post-operative discomfort is avoided. The anchoring of the gall-bladder to the abdominal wall is undesirable, unphysiological and not infrequently causes permanent distress. The recurring attacks of pain and tenderness and the dragging sensation in the region of the scar are often relieved by fomentations and massage.

In dealing with adhesions in the bile-duct region, the surgeon should be exceedingly circumspect in order not to injure the important structures that are present in this region. The gall-bladder may be so bound down by inflammatory adhesions as to make its removal inadvisable. It has been known to cap a perforated duodenal ulcer. A duodenal fistula⁽¹²⁾ has been known to follow the separation of a gall-bladder adherent to the gut.

OPERATIVE AND POSTOPERATIVE HEMORRHAGE.

Operative and postoperative hemorrhage attending operations on the biliary system is an alarming complication and may prove most troublesome and difficult to control; it may end fatally.

In the absence of jaundice, hemostasis is effected by the methods ordinarily employed to arrest hemorrhage in other abdominal operations. In a non-jaundiced patient, hemorrhage, operative or post-operative, is usually easily checked if the operator be conversant with its various causes. What are these causes? Overlooked and non-ligated bleeding points, insecurely tied ligatures, premature absorp-

tion of ligature material, accidental tearing or section of normal or anomalous vessels not infrequently embedded in inflammatory tissue, and oozing resulting from the tearing of adhesions and the dissecting of the gall-bladder from its hepatic bed. It is essential that the operator secure an exposure of the operative field ample to enable him to identify the important structures present in this region. A suitable operating table, tilting or rotating, if possible, of the liver, wide retraction of the wound edges and walling off of the intestines by gauze pads, all aid in securing a clear view of and an easier access to the operative region. The incision should be adequate in length; it must permit the proper examination of the bile-ducts and the accompanying vessels. It is all-important that the operator be well versed in the topographical anatomy of the biliary region;⁽¹³⁾ especially, should he be well acquainted with the normal and anomalous distribution of its blood vessels and the variations in the mode of union of the bile-ducts. Whenever feasible, excision should begin at the cystic end of the gall-bladder, proceeding from below upward and in the direction opposite to the lymph-current; there is less hemorrhage, the operative field is less obscured by blood and perfect hemostasis more easily secured. The cystic artery lies above and behind and not along the side of the cystic duct and presents variations in number, origin, size, length, tortuosity and anatomical relations. A single cystic artery is present in 88 per cent of individuals; in 12 per cent, there are two cystic arteries. The bile-ducts are covered by plexuses of blood and lymphatic vessels.⁽¹⁴⁾ If these be cut, troublesome hemorrhage may follow. If possible, isolate and ligate the cystic artery before it divides into its two branches and let it drop back away from the surface of the liver. In clamping the cystic artery, seize only the artery and its surrounding connective tissue. Should the knot or the forceps slip from or be pulled off the cystic artery,

or should this same vessel or an important branch thereof be accidentally torn or cut before being grasped, profuse bleeding will occur. The indication is immediately to catch the bleeding point without injuring the bile-ducts. Compress the bleeding point with the forefinger and catch with a few mouse-toothed forceps the tissues about the forefinger. Then lift the forceps, remove the finger and clamp the artery. After all the bleeding points have been securely ligated and the hepatic oozing fairly well controlled by peritonization, gauze-tampons, etc., the operative wound is closed. Bleeding points in the abdominal wall are located, clamped and ligated without difficulty.

Postoperative bleeding from the cystic artery is to be recognized and controlled at once; if not checked, death may result from intraperitoneal hemorrhage. When drainage has been used, blood appears on the dressings and is detected early; in the absence of drainage, it escapes into the peritoneal cavity and is only revealed by the symptoms of acute anemia. This argument is used by the opponents of cholecystectomy without drainage. Drainage provides an outlet for extravasated blood, escaped bile and inflammatory exudates.

Oozing hemorrhage is more frequent and more dangerous after cholecystectomy than after other laparotomies. The oozing comes mainly from the bed of the gall-bladder; it often is copious and very difficult to arrest. When removing the gall-bladder, incise its peritoneal coat in such a manner as to form two flaps of serosa. Use these to peritonize the denuded gall-bladder bed; if necessary, fix an omental graft to the raw liver surface. The cellular tissue between the gall-bladder and the liver is at times very vascular. In removing the gall-bladder from its bed, minimize hemorrhage by sharp dissection of this tissue and the least amount of trauma to the liver. The oozing of blood may be checked by the pressure of pads soaked in hot salt solution. If the denuded area be extensive

and the oozing difficult to control, a gauze-pad is spread over the denuded hepatic area and extends from the stump of the cystic duct well beyond the liver. This is done to stop oozing and serve as a drain. In many cases a cigarette drain suffices. After cholecystostomy and cholecystectomy, the gauze packing is to be cautiously removed lest oozing recur from the gall-bladder bed and other denuded areas.

In the presence of severe obstructive jaundice, owing to the fact that the coagulation time of the blood is increased from three or four minutes to ten or twelve minutes or even longer, operations on the biliary tract are extra hazardous. Icteric patients, owing to their low general resistance and great liability to serious and, at times, fatal hemorrhage, should not be subjected to operations that are not immediately and absolutely necessary. The cholemic patient's great liability to hemorrhage must be foreseen; it necessitates appropriate and adequate pre- and post-operative care. Though cholecystectomy is incontestably the better operation as to the rapidity and completeness of cure, nevertheless, in cases of deep jaundice, it is better to do the minimal amount of operating and therefore to perform the lesser operation. Excision of the gall-bladder, if associated with much injury to the liver, may be followed by serious oozing from the denuded liver surface. Cholecystostomy permits the slow decompressing of the liver by drainage through the gall-bladder; later, after the jaundice has subsided, the hepatic function has improved and the patient's resistance increased, the other therapeutic indications may be met.⁽¹⁷⁾ When in jaundiced patients indicated operations can be safely postponed, they should be adjourned. "If the jaundice is just beginning to show at the time the patient presents himself for treatment, it may be best to operate without delay, but if he comes when the jaundice is decreasing, it is best to wait until

it has disappeared or is at a standstill."⁽¹⁵⁾ Operation should not be too-long delayed, as prolonged obstructive jaundice is a factor in the causation of biliary cirrhosis.

Before operating on cholemic patients, the coagulation time of the blood and its urea content are to be brought approximately to normal. It is also desirable that there be a normal total urinary output and an absence of albumin and casts. The existing hepato-renal insufficiency must be treated. Very frequently, one must operate in the absence of ideal conditions.

Horse serum, defibrinated blood, etc., administered subcutaneously, decrease the clotting time of the blood. All our jaundiced patients receive calcium lactate per mouth for several days before and after the operation. According to Lea and Vincent, the clotting time of blood is lowered by doses of calcium lactate taken by mouth each day for three days. In all cases of obstructive jaundice, our patients receive for three days preceding the operation a daily intravenous injection of 5 to 10 cc. of a 10 per cent solution of calcium chloride in redistilled water. Walters says that 5 cc. of a 10 per cent solution of calcium chloride in redistilled water, if given intravenously for three days immediately prior to operation, brings the clotting time within normal limits despite a most intense jaundice. Blood transfusions (whole blood is preferable)⁽¹⁶⁾, before and after operation, are useful in emaciated, depressed, jaundiced patients, often enabling them successfully to undergo the ordeal of a serious surgical operation. Blood transfusions, though valuable, do not have in obstructive jaundice the specific effect that they have in hemorrhage of the new-born. By applying, both before and after operation, dry and moist heat to the hepatic region, the activity of the hepatic cells is increased. The general condition of jaundiced patients can be much improved by the ingestion of large amounts of water per mouth, of normal salt solution subcutaneously and of glucose and sodium bicarbonate solutions rec-

tally. The patient's carbohydrate balance should also be reinforced.

POSTOPERATIVE EXTERNAL FISTULAE.

All, intermittent or chronic, postoperative external fistulae of the biliary tract should be treated operatively if they be attended with discomfort and health impairment and do not show any tendency to spontaneous closure. According to nature of discharge, they are classified into mucous and biliary; according to site of origin or internal orifice, into gall-bladder, cystic, hepatic and common duct fistulae. Persisting sinuses due to careless technic, lost sponge, forgotten drain, etc., must be distinguished from fistulae.

EXTERNAL MUCOUS FISTULAE.

Cholecystotomy intentionally creates a biliary fistula. In the absence of obstruction or stenosis of either the cystic or common bile-duct, such operatively-created fistulae heal spontaneously after a shorter or longer period. If the cystic duct be completely obstructed, the fistula becomes mucous in type and closes and opens intermittently until the cause has been operatively removed. Spontaneous permanent closure rarely occurs in mucous fistulae resulting from:

- (a) Impaction of a calculus at the junction of the gall-bladder and cystic duct;
- (b) Stenosis of the cystic duct following calculous or other traumatic ulceration;
- (c) Compression of this same duct by cicatricial tissue, traumatic or inflammatory in origin.

The requisites for spontaneous healing are obliteration of the cavity of the gall-bladder and conversion of the organ into a fibrous cord or mass.

The removal of the entire gall-bladder is, in the absence of any common duct obstruction, the best treatment for a mucous fistula. The cause, origin and source of the fistula and the fistula itself are suppressed by cholecystectomy. In acute and chronic cholecystitis, when stenosis of the

cystic duct due to traumatic ulceration is present, the ablation of the gall-bladder prevents the development of mucous fistulae. If the cystic duct and the gall-bladder show but slight alteration, it may suffice to remove the impacted stone. As a rule, this calculus is not of new formation; it was present and overlooked at the time of the first operation. If the common duct be the seat of irremovable obstruction (partial or complete), the cystic duct and the gall-bladder are cleared of their contents and a cholecyst-enterostomy is performed. Of the three procedures just mentioned, ablation of the organ is the operation of election for the cure of mucous fistulae of the gall-bladder. Entero-cholecystic anastomosis is difficult of execution; it is a measure of last resort.

EXTERNAL BILIARY FISTULAE.

A safe and successful cholecystectomy necessitates an adequate exposure of the operative field and a careful exploration of the bile-ducts. If, at the time of the excision of the gall-bladder, calculi present in the common duct are overlooked, a biliary fistula not uncommonly results. Biliary fistulae due to calculous occlusion of the common bile-duct, if the duct be otherwise normal or almost normal, close upon removal of the occluding calculus or calculi. Biliary fistulae due to compression of the common duct by cicatricial tissue are cured by the removal of the compressing agent. An operator, unskilled and inexperienced in biliary surgery and possessing only a superficial knowledge of the many anatomical variations in the mode of union, length and course of the bile-ducts, is very liable to ligate, crush, cut or resect the hepatic or common duct. An incision ample in length permits identification and palpation of the ducts and minimizes their liability to injury. The cystic duct must be seen when ligated. The operator must see that he is tying it and nothing else. The vast majority of duct injuries are due to errors in technic or forgetfulness of the anomalies of this region. Bile-duct injuries are of more frequent occurrence if the

topography of the biliary region is altered and distorted by adhesions.

In removing the gall-bladder, ligate and divide the cystic duct close to the choledochus and be careful not to traumatize the latter. In difficult cases, it is better to leave a stump of the cystic duct than to run the risk of injuring the common duct. Dilatation of the stump of the cystic duct is uncommon and usually of negligible clinical significance. Some biliary fistulae have followed too low ligation of the cystic duct. Incisions giving inadequate exposure of the operative field are responsible, in part, for injuries to the bile-ducts. "Working in the dark" begets poorer results and a higher percentage of complications. Under the most favorable conditions, the operative field is a limited one and important structures lie in such close proximity that accidents are not uncommon. Duct injuries are less common since retrograde cholecystectomy has come into more general use.

All bile-duct injuries should be repaired immediately, that is, at the time of infliction; if overlooked or improperly repaired, a biliary fistula or a biliary peritonitis follows. Spontaneous cure of serious bile-duct injuries is so infrequent that its occurrence, for practical purposes, can be disregarded.

The indications for operation are determined by the patient's general condition, the age of the fistula, the amount of discharge and the probability or non-probability of spontaneous permanent closure. The normal flow of bile into the intestines must be reestablished; there must be a permanent passageway for the bile from liver to intestines. Permanent biliary fistulae that discharge profusely entail loss of appetite, emaciation and, in time, death. Reconstructive bile-duct operations are failures when the line of suture yields or when a secondary stenosis or an ascending angiocholitis develops. In irreparable common duct injuries, the anastomosis of the gall-bladder to the stomach, duodenum, jejunum or colon is indicated. This indica-

tion cannot be met if the gall-bladder has previously been removed or if it be the seat of degenerative changes unfitting it for anastomosis. The anastomosis to the colon is a measure of necessity, performed only if the patient's condition be precarious or when the anatomical conditions present do not permit prolonged operative maneuvers. The saving of the bile to the organism improves digestion and avoids malnutrition. The physico-chemical functions of the bile are of value in intestinal digestion.

Slight parietal injuries of the hepatic or common duct are to be sutured. Complete or almost complete division of either of these conduits may be repaired by circular anastomosis of the divided ends with or without mechanical aids, such as a rubber tube, glass tube, etc., allowed to emerge through a separate opening in the duodenum. The line of union is to be reinforced with omentum. In complete bile-duct division, it is difficult to find the proximal and, especially, the distal end, and it is still more difficult successfully to suture the ends to one another. Reconstruction of the bile passages is always a formidable procedure, even to the most expert technicians. The extent, location and nature of the duct injury, the associated pathology (dense, firm adhesions not easily separated, etc.) and the patient's general condition must all be considered so as to choose the operative technic most appropriate for the case at hand. When, owing to the length of the damaged area, the two ends of the duct cannot be apposed, the defect is to be bridged by inserting one end of the rubber tube in the upper segment and then passing the other end through the lower segment into the duodenum; omentum or other tissue is sewed over the exposed portion of tube and reconstructed duct⁽¹⁹⁾. New canals built by the aid of inverted veins, fascial, omental or other tissue do not give lasting satisfactory results. These newly created ducts, not being mucous-lined and not being provided with a submucosa, invariably contract. If the distal end of the divided

duct cannot be found or if it be unfit (too short, too friable, etc.) for end-to-end suturing, hepatico-duodenostomy⁽¹⁸⁾, the implanation of the proximal end of the hepatic duct into the duodenum and hepaticogastrostomy, implanation of the proximal end of the hepatic duct into the stomach, are practised. Both of these operations can be done upon a rubber tube and direct suture.

POSTOPERATIVE BILIARY PERITONITIS.

Circumscribed or diffuse postoperative biliary peritonitis is due, partly or wholly, to the escape of bile into the peritoneal cavity. When generalized, it is a serious complication. It follows the soiling during the operation of the operative field with gall-bladder and bile-duct contents or the leakage after the operation of bile into the peritoneal cavity. The site of leakage may be an oozing liver surface (gall-bladder bed), damaged or cut normal or anomalous bile-ducts, an improperly or insecurely ligated cystic duct whose ligatures have slipped or been absorbed prematurely. If the cystic duct be divided and ligated too close to the choledochus, the bile pressure may force off the ligatures; bile then escapes into the peritoneal cavity and biliary peritonitis results.

The prophylactic treatment of biliary peritonitis consists in the careful avoidance and successful removal of its etiological factors. By the aid of abdominal pads, the operative field is carefully walled off from the general peritoneal cavity, thus minimizing, at times, preventing the contamination of the latter by the escape of infected or non-infected bile. Before closing the operative wound, see that the cystic duct is securely tied by two ligatures and that all bile-duct injuries are repaired. Fatalities due to overlooked duct injuries are not uncommon.

General peritonitis is always a possibility when drainage is omitted. For several days after cholecystectomy, oozing of serum, blood or bile occurs from the gall-

bladder bed. Drainage prevents the accumulation of effusion in the peritoneal cavity and provides for the escape of exudates. In practically all difficult operations on the biliary tract, I drain the subhepatic space and the renal well. After empyema, rupture of the gall-bladder and in cases in which hemostasis is not perfect, drainage for a few days is imperative. Healing is neither unfavorably influenced by drainage nor are undesirable sequelae to be feared. Leakage is more frequent when the gall-bladder is removed from above downwards⁽²⁰⁾. Walker states, "this is a further argument for careful isolation and ligation of the cystic duct and the removal of the gall-bladder from below." In many cases, it suffices to place a soft rubber tube or cigarette drain along the gall-bladder bed and to make it project through a stab wound in the loin or through a stab incision an inch or two to the right of the operative wound which is then closed. Experience has taught us that a stiff tube may cause much distress and a soft rubber one, actual danger through kinking and blockage.

The prophylaxis of biliary peritonitis is all important. This is due to the fact that the treatment of this affection, like that of other forms of acute peritonitis, is very unsatisfactory. The indications are to evacuate all bile collections, to check the further escape of bile into the peritoneal cavity and to accelerate the elimination of bile-salts from the circulation. To arrest the escape of bile, it is necessary to expose and repair the injured bile-duct and to drain the biliary region. Hypodermoclysis and proctoclysis are employed to combat the existing toxemia. These patients are very sick and unable to withstand any lengthy and complicated operative maneuvers. Symptoms are met as they arise by the usual measures.

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INTESTINAL COMPLICATIONS OF PULMONARY TUBERCULOSIS.*

J. O. LISEBY, M. D.,

NEW ORLEANS.

Pulmonary tuberculosis and its many complications has held the attention of medical men throughout the ages. No other disease has so stimulated succeeding

generations of clinicians and laboratory workers and yet maintained a like record as the greatest scourge of all ages and nations. Yet when one surveys the results of the work that has been done on this subject he can but acknowledge that we have not gone very far from the words of Hippocrates when he directed his patients to remain much out of doors, drink freely of milk, avoid intoxicants, venereal and other excesses, and advised a change of climate.⁽¹⁾

Notwithstanding the enormous amount of work that has been done on the complications of pulmonary tuberculosis we find considerable variation in the percentages given as a result of autopsy findings from various parts of the world. In fact they vary between such wide limits as five percent and ninety-eight percent.

The wide variation quoted for the intestinal complications of this disease, has been the source of inspiration for the data which will be shown in this paper. It is desired to report the results of a large number of autopsies which were done in Charity Hospital, New Orleans, Louisiana, covering a period of nine years (1916-1924), in order that the figures gathered from this material may be compared with the results of autopsies from other sections and countries. During the period from 1916 to 1924 inclusive there was a total of two thousand six hundred and ninety-six autopsies carried out on all diseases, of which a total of two hundred and sixty-four cases died of pulmonary tuberculosis and its complications.

The autopsies included in these tables were carried out under the direction of Dr. C. M. Duval, Professor of Pathology and Bacteriology Tulane University, and formerly Director of the Pathological Laboratories Charity Hospital, and show the results of both microscopical and macroscopical diagnosis in every sense.

Since it is the intention to show only intestinal lesions which occurred second-

*Read before the Staff of the Southern Baptist Hospital, New Orleans, April 12, 1927.

arily to pulmonary tuberculosis, no autopsies on patients under ten years of age have been included in these tables, thus accepting the prevalent view that primary tuberculosis of the intestines does not occur in the adult.

In table A the entire two hundred and sixty-four cases of pulmonary tuberculosis are shown with the idea of presenting the percentage of occurrence of tuberculosis of the intestines, peritoneum and mesenteric lymph nodes according to individual lesions, age, sex and race, as secondary lesions. On studying this table it is seen that of the ninety-two autopsies of white patients sixty-one or sixty-six percent were between the ages of thirty and sixty years, while of the one hundred and seventy-two autopsies of colored patients ninety or fifty-two percent died during the same period.

From table B it is seen that white males showed intestinal complications least often, while colored males, white females and colored females followed in order of frequency. Also this table shows that of the ninety-two white patients only twenty cases or twenty-one percent showed intestinal complications, while of the one hundred seventy-two colored patients there were sixty-three patients, or thirty-six percent which showed intestinal complications.

Sir William Osler⁽²⁾ stated that fifty-five percent of all patients afflicted with pulmonary tuberculosis show secondary involvement of the bowels. Table B shows that of the entire two hundred sixty-four cases there were eighty-three showing secondary involvement of the bowels, which gives us a considerably lower figure, amounting to thirty-one per cent.

In these tables the term enteritis includes all lesions of the lining or muscular wall of the intestines found anywhere between the pylorus of the stomach and the anus.

Of the eighty-three cases showing complications a total of twenty-six of them were part of a generalized miliary tubercular process.

Comparing the figures from various writers in table C with those obtained from this series of cases, fifteen percent is appreciably lower than the majority of figures from other localities, while the figures on secondary tuberculous peritonitis from Charity Hospital are about an average of the figures shown in other localities in table D.

So far as I have been able to ascertain from a search of the Cumulative Index and Index Medicus no previous attempt has been made to show the occurrence of intestinal complications of pulmonary tuberculosis according to individual lesions, age according to death by decades, sex and race, although Boles⁽⁶⁾ stated that tuberculous peritonitis occurred most often between the ages of twenty and forty years. In table A we see that of the entire twenty-two cases showing tubercular lesions of the peritoneum fourteen cases or sixty-three percent were between the ages of twenty and forty years, hence confirming Boles' statement.

Study of tables A and B show that the incidence of pulmonary tuberculosis with reference to age and race confirms the general teaching that the white race has acquired a comparatively greater immunity to this disease than the colored race. Also that the susceptibility of the negro extends over a greater period of life than that of the white race. We see that the males of both races are less likely to show intestinal complications than the females of the same race. It is believed that this is explainable on the basis of the belief that the male has a stronger constitution which is acquired during youth and young manhood as a result of vigorous games or exposure to fresh air and sunshine while occupied at outdoor labor.

It seems that when it can be readily demonstrated that the intestines are secondarily involved in one out of every three cases of pulmonary tuberculosis handled by the medical profession we ought to devote more time and attention to this

phase of treatment of the various symptoms that arise during the course of the disease.

CONCLUSIONS.

1. Patients suffering from pulmonary tuberculosis in the United States are probably not as susceptible to tuberculous involvement of the intestines as patients residing in England, France or Germany.

2. Susceptibility to secondary involvement of the intestines in pulmonary tuber-

culosis beginning with white males increases with colored males, white females, and colored females.

3. The white race is considerably less susceptible to secondary intestinal lesions than the colored race.

4. Adequate significance is not paid the intestinal pathology present with great frequency in the treatment of pulmonary tuberculosis.

TABLE A.

Abdominal complications secondary to pulmonary tuberculosis in cases shown in preceding column.

Age at death shown in decades	Total cases pulmonary tuberculosis	Enteritis	Peritonitis	Enteritis and peritonitis combined	Tuberc. lesions of mes. L. nodes	Percentage complications according to decades
White males—						
10-19 years	3	0	0	0	1	33
20-29 "	9	2	0	0	0	22
30-39 "	12	3	0	0	0	25
40-49 "	17	3	0	0	0	17
50-59 "	15	1	0	0	0	6
60-69 "	8	0	0	0	0	0
70-79 "	5	0	0	0	0	0
Totals	69	9	0	0	1	
Percentage complications by lesions		13	0	0	1.4	14
White females—						
10-19 years	1	0	0	0	1	100
20-29 "	3	2	0	0	0	67
30-39 "	11	1	2	1	0	36
40-49 "	3	3	0	0	0	100
50-59 "	3	0	0	0	0	00
60-69 "	1	0	0	0	0	00
70-79 "	1	0	0	0	0	00
Totals	23	6	2	1	1	
Percentage complications by lesions		26	8.6	4.3	4.3	43

Abdominal complications secondary to pulmonary tuberculosis in cases shown in preceding column.

Age at death shown in de- cades	Total cases of pulmonary tuberculosis	Enteritis	Peritonitis	Enteritis and peritonitis combined	Tuberc. lesions of mes. L. nodes	Percentage complications according to decades
Colored males—						
10-19 years	6	1	2	1	0	50
20-29 "	39	9	4	2	2	39
30-39 "	27	2	3	2	2	25
40-49 "	18	5	0	0	2	38
50-59 "	21	1	3	0	0	19
60-69 "	10	0	0	0	0	00
70-79 "	3	0	0	0	1	33
80-89 "	1	0	0	0	0	00
90-99 "	1	0	0	0	0	00
Totals	126	18	12	5	7	
Percentage complications by lesions		14.2	9.5	3.9	5.5	33
Colored females—						
10-19 years	8	1	3	2	0	75
20-29 "	11	2	1	0	0	27
30-39 "	11	2	2	1	0	45
40-49 "	9	2	2	2	0	66
50-59 "	4	1	0	0	0	25
60-69 "	2	0	0	0	0	00
70-79 "	0	0	0	0	0	00
80-89 "	1	0	0	0	0	00
Totals	46	8	8	5	0	
Percentage complications by lesions		17.3	17.3	10.8	0	45

TABLE B.

Abdominal complications secondary to pulmonary tuberculosis in cases shown in preceding column.

Age at death shown in de- cades	Total cases of pulmonary tuberculosis	Enteritis	Peritonitis	Enteritis and peritonitis combined	Tuberc. lesions of mes. L. nodes	Percentage complications according to sex
White males	69	9	0	0	1	14
Colored males	126	18	12	5	7	33
White females	23	6	2	1	1	43
Colored females	46	8	8	5	0	45
Totals	264	41	22	11	9	31
Percentages complications by lesions		15	8	4	3	31

TABLE C.

Complications of pulmonary tuberculosis by secondary tuberculous enteritis as quoted by various writers are given in this table:

Fenwick and Dodwell (3)	4.4%
Eichhorse (3)	21.9%
Osler (2)	23.0%
Henry Phipps Institute (4)	34.0%
Heinze (3)	51.0%
Honing (3)	70.0%
Weigert and Orth (3)	90.0%
Herxheimer (3)	98.0%
Charity Hospital, New Orleans, La.	15.0%

TABLE D.

Complications of pulmonary tuberculosis by secondary peritonitis as quoted by various writers are given here:

P. Horton-Smith Hartley (5)	3.4%
Munstermann (5)	5.0%
Henry Phipps Institute (4)	14.0%
Borschke (5)	16.17%
Charity Hospital, New Orleans, La.	8.0%

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NOTES ON THE USE OF LIPIODOL IN THE BRONCHI.*

PHILIP H. JONES, JR., M. D.,
AND
CHAILLE JAMISON, M. D.
NEW ORLEANS.

Lipiodol is a preparation of the oil of poppy, containing 40% by weight, of iodine. The viscosity of this vegetable oil is such that it is freely fluid when warm, and also of sufficient specific gravity to make it penetrate to the dependent bronchi; the iodine content makes the preparation opaque to the ray, and also antiseptic.

The use of this preparation is due to the French clinicians and has been in use in

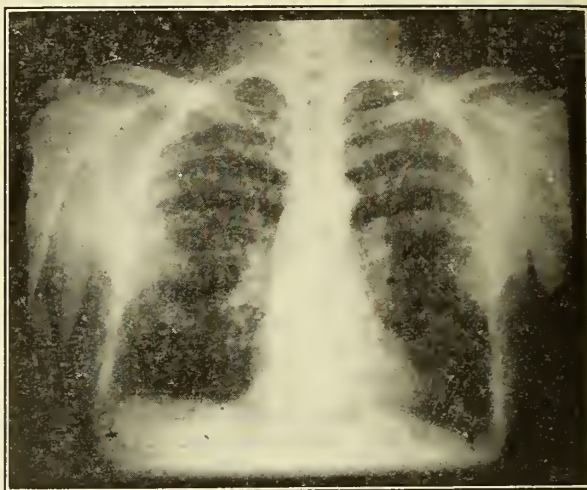


Fig. 1—View of chest before introduction of lipiodol

that country for four or five years, from where it spread into general use throughout the continent, and England. It has attracted attention in this country during the past year or so. Its first use in radiology was by Sicard, who introduced it into the spinal cord for the localization of tumors; Forestier later suggested that it might be used for the diagnosis of broncho-pulmonary affections. There is nothing particularly new in the introduction of opaque substances into the bronchi, as Chevalier Jackson in 1905 insufflated bismuth subcarbonate into parts of the bronchial tree through the bronchoscope, for purposes of diagnosis and treatment.

We are told by Dr. Matas that the use of oils, notably oil of sesame, for therapeutic purposes by introduction into the trachea and bronchi, was practiced many years ago and that a paper on this subject was presented before this Society by Dr. McShane at the time.

There are three techniques which may be used. After thorough anesthetization of the pharynx and larynx by the use of cocaine, the supra-glottic method by indirect laryngoscopy and the use of a laryngeal cannula is not difficult and very satisfactory. The trans-laryngeal method may be practiced either with indirect laryngoscopy and a cannula or rubber tube passed

*Read before the Orleans Parish Medical Society, October 25th, 1926.

through the larynx into the trachea, or a catheter may be passed by the sense of touch and without the use of laryngoscopy through the trachea and even into the primary bronchi. The oil is injected with a high pressure syringe in any instance. Another method, which is particularly applicable in children, is to introduce a needle from the outside of the neck through the crico-thyroid membrane directly into the larynx. This is, of course, done under local anesthesia. In any of the above methods the cough reflex may be diminished and the procedure greatly facilitated by hypodermic of morphine about half an hour beforehand. Also the cough reflex may be greatly reduced by the injection of 1% novocain into the trachea before the introduction of the oil.

When the substance is introduced into the bronchi, if the patient is in the erect position the oil tends to flow into the right bronchus and then into the bronchi of the lower lobe of the right lung. This may be overcome by having the patient in such a posture as to encourage the oil to flow into the desired locality. Introduction into the apices of the lungs is naturally extremely difficult and almost impossible. The technique used for the introduction of lipiodol in the cases which we are about to present was that of indirect laryngoscopy by the supra-glottic route; we may add that for the production of good pictures at least 30 c.c. of the oil should be introduced.

It seems reasonable to believe that any substance containing 40% of iodine, which is slowly liberated over a long period of time, when introduced into the bronchi should exert a distinct antiseptic influence and it is claimed that it is of very marked value in cases of abscess of the lung, bronchiectasis and chronic bronchitis. We are not, at the present time, in a position to make any definite statement in this regard, though we have had very few patients who did not say that they felt better after the injection. Of ill-effects it is said

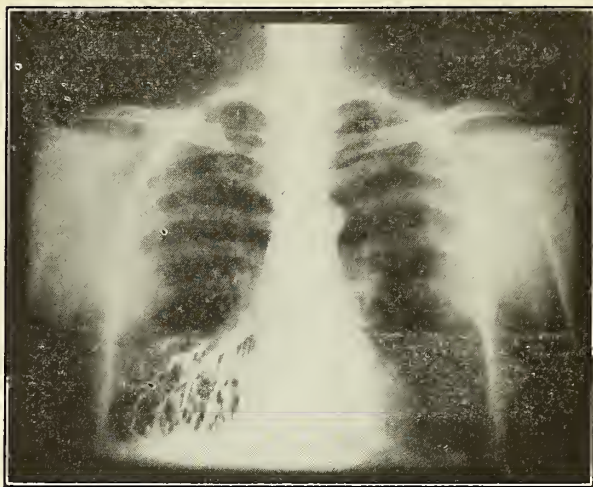


Fig. 2—Same as Fig. 1 after introduction of lipiodol, showing bronchiectasis.

that acute iodism may be produced in those sensitive to this drug, and one is also reminded that iodine is contraindicated in pulmonary tuberculosis, though in this latter regard we must remember that at one time the use of iodine was highly recommended in the treatment of pulmonary tuberculosis and that a very recent monograph on this subject lauds its value. It has been said that the oil may become inspissated in the bronchi, particularly where the lung has been collapsed after its use. Usually, however, it is coughed up within a few days.

We wish to thank Dr. Suzanne Schaeffer for interest and collaboration.

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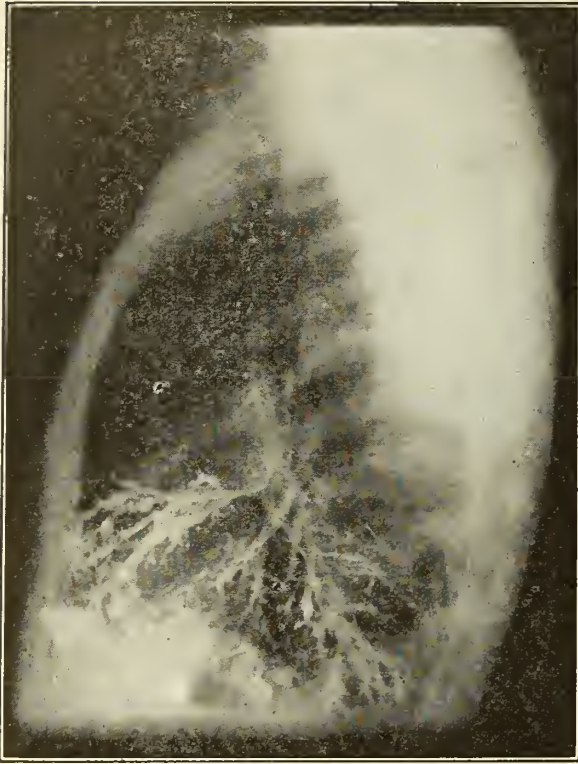


Fig 3—Same. Lateral view.

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DISCUSSION.

Dr. Val. H. Fuchs: In my fairly limited experience with injections I have tried each one of the methods of getting lipiodol into the bronchi and lungs. I tried the supraglottic and the transglottic; I used the bronchoscope, putting it directly into the lung, and of the various methods tested I believe the bronchoscope to be the best because, in using it, regardless of the patient's position, it can be passed into either lung. Another method, brought out by Dr. Sam Iglauer of Cincinnati, is that of introducing lipiodol thru intubation tubing: in its employment, however, wishing to reach the right or the left lung, there is also the disadvantage of having to place your patient in a certain position. The bronchoscope, due to the ease with which it is passed at will into either lung, is certainly superior to the above mentioned methods.

I know of a case, first treated in the country, in which a diagnosis of pulmonary tuberculosis was made. The patient was later sent to Asheville, the diagnosis at that time resting between lung abscess and bronchiectasis. When sent to New Orleans for treatment the condition had existed for eight years. We used, first the bronchoscope, encountering offensive pus which we thought probably emanated from a lung abscess. Suction was applied and about a pint of purulent material aspirated. Lipiodol was then injected by bronchoscope and a bronchiectasis condition demonstrated.

I would like to ask Dr. Jones if there is any contraindication to the use of lipiodol?

Dr. I. I. Lemann: I am sorry Dr. Henderson is not here tonight, as together we have been using lipiodol at Touro for about a year with very satisfactory results. We have had a series of cases of lung abscess in which the lipiodol injection has given us considerable information.

I have a case there now, a boy who, following tonsillectomy a year ago developed a lung abscess. The abscess was drained from the outside but unfortunately there was a rupture into the pleura and he had empyema as well. He survived that and now returns within the last month for further study. A few days ago Dr. Weil passed the bronchoscope and injected lipiodol,

demonstrating an abscess still present. Although clinically well, the boy still has a lung abscess cavity on the right side and many bronchiectatic cavities on the left side. This case illustrates one of the interesting advantages to be derived thru these studies, viz: the deduction that it will not be of great advantage to tackle this boy again from the outside, as he has bronchiectatic cavities on the other side. We are hoping that Dr. Weil will be able to help him through the bronchoscope. Certainly the experience that Dr. Chevalier Jackson has in successfully treating his patients through the bronchoscope ought to stimulate us to study still further the best method of attack.

We had, in the last year, the opportunity of studying another very interesting case with lipiodol—a man admitted with a probable diagnosis of gall-bladder pathology, in whom we made out a very much enlarged liver, the enlargement extending upward, and finally located an hepatic abscess. There was, however, no preceding history of dysentery, nor were we able with the proctoscope to demonstrate amoebae definitely. He presently developed a hepato-bronchial fistula and we have since studied his case with lipiodol injected from the outside through the fistula.

The study has been of great help in determining what to do.

Dr. A. I. Weil: My chief interest in lipiodol injections is in the manner of introduction. I have never tried the needle into the larynx, but have introduced lipiodol into the lungs very satisfactorily by the cannula into the larynx and have also used the bronchoscope for this purpose.

Dr. Iglauer of Cincinnati showed me the intubation method, but for the purpose it does not seem as desirable as the bronchoscope. Certainly the latter instrument is as easily introduced as this tube and can be immediately placed where you want it without having to change the patient's position which, in the intubation method, is necessary.

I am glad to hear that the amount of lipiodol injected, or a repetition of its use, does not cause subsequent distress to the patient, as I have recently had a case in which the radiograph was unsatisfactory, probably because I did not use a sufficient amount. I used only 10 c.c. and on the next occasion I shall try more.

In another case of lung abscess, which I treated with Dr. Lemann, also following tonsillectomy (and I want to say that I was not responsible for the lung abscess in either instance), we introduced the lipiodol by means of the tracheal cannula and got a good outline of the bronchial tree.

While on that subject I might say that not only is the bronchoscope best as a means of injecting lipiodol, but it has the virtue of disclosing pathology which it is able to take care of at the same time. At Mt. Sinai Hospital, New York, the bronchoscope is used in routine examinations of all obscure lung cases. During these examinations foreign bodies have been discovered and removed and the condition has cleared up when there was no associated pathology.

Besides being one of the best methods of injecting lipiodol, the many lung conditions discovered through bronchoscopy are an additional argument in favor of its adoption.

Dr. H. W. E. Walther (question): How long does the lipiodol remain in the lungs after it is injected? Does it ever produce any abscesses in the lungs or have any serious after results?

Dr. H. L. Kearney: It seems to me that there ought to be a very close co-operation between the internist and the thoracic surgeon, and the bronchoscopist in the use of lipiodol in the bronchi. With the bronchoscope you have not only the advantage in placing the lipiodol where you want it, but you have the very great advantage of a diagnostic bronchoscopy at the same time. Bronchoscopy for the injection of lipiodol is a thing which should be done with local anesthesia in adults and no anesthesia in children.

Dr. Chaille Jamison (closing): I thank you very much for the discussion, through which I have learned a great deal. I wish to say to the Ear, Nose and Throat men that the reason we undertook this study is because we wanted to do it in our ward at Charity Hospital, and it is so difficult to get the Throat men to spend much of their valuable time to do this work, that one of us, however incompetent, had to work up the technique.

The injection of lipiodol by the supraglottic method is extremely simple and efficacious. It gives an outline of the bronchial tree; the site of the pathology in either lung is accurately determined; and the nature of the affection (lung abscess, bronchiectasis, etc.) revealed. I cannot see that the use of the bronchoscope is indicated—passing first into one lung, then in the other; in one bronchus, then repeating the process; it is too elaborate a procedure. This method takes fifteen to twenty minutes, and the patient is sent to the x-ray for roentgenographic study. There is

no use to complicate a simple thing. It is good for mapping out small portions of the lung, but for a general survey I cannot see its indications. Our method, visualizing the entire field, is certainly preferable. But this, perhaps, is merely a personal view. I understand that in children the use of a modified intubation is absolutely necessary.

Now regarding the amount. We put as much as 40 c.c. in the chest without evidence of distress. We have at three intervals given 40 c.c. to the same patient, again without ill effects. Small amounts do not give good pictures.

In answer to Dr. Walther's questions.

1. Regarding the immediate symptoms that might result? That is going to depend on how good your anesthesia is. If the larynx and trachea are well anesthetized and your patient is not nervous, you are going to have no disturbance. At first, with patients in my clumsy hands it was impossible to get any in at all. I failed on two occasions; one patient in whom I finally succeeded in injecting 10 c.c., coughed it up before reaching the X-ray Department.

2. Alarming symptoms? As for alarming symptoms, thus far we have had none at all.

3. Time of expulsion? This varies—right away, from the minute you get it in up to two or three years.

4. The effect on tuberculosis? The effect on tuberculosis is more or less uncertain.

5. About the use of lipiodol in a tubercular lung? Dr. Durel put his finger on the difficulty. I really do not see the advantage of getting lipiodol into the apices in these cases. We do not need lipiodol for diagnosis, obtaining the desired information through physical examination and ordinary roentgenogram. Still in its experimental stage, the time has not yet arrived when we can assert that its use is contra-indicated in a certain condition, or advocate its employment in all cases. With regard to its therapeutic side, I must confess that thus far I have seen nothing in the way of a result that would lead me to believe in its curative value. Theoretically, it should be of the greatest help in cases of chronic bronchitis.

It has for its recommendation: simplicity of technic, absence of distressing after results, diagnostic value and a possible therapeutic value.

NOTICE TO MISSISSIPPIANS

As the Journal goes to press, a telegram just received from Dr. T. M. Dye, Secretary of the Mississippi State Medical Association states that the meeting place for

The Convention
has been transferred from
Vicksburg to
Jackson

during same dates as previously announced

May 10-12, 1927

DRIVE TO VICKSBURG



Junius Ward Johnson Y. M. C. A. Building, where General Sessions, Scientific and Commercial Exhibits will be held.

There are many highways of great scenic beauty leading into Vicksburg and doubtless many members of Mississippi State Medical Association and the Woman's Auxiliary will want to drive to Vicksburg for the meeting with the Issaquena-Sharkey-Warren County Medical Society on May 10th, 11th and 12th. With this thought in mind the Committee at Vicksburg has arranged to furnish detailed road information at that time to those contemplating the overland trip. A moment's thought will show the reason for this.

Warren County, like many other sections of the country, has been experiencing unusual water conditions which often make a statement of road conditions one day of little or no value several days later; for these reasons all who contemplate making the trip to Vicksburg by automobile are urged to write to Dr. Leon S. Lippincott, Secretary. On receipt of each letter detailed information will be sent direct.

This plan will insure each driver receiving correct information of the route over which he proposes to travel.

Radiating from Vicksburg, like the fingers of an outstretched hand, are paved highways leading to some of the most picturesque localities in the State. A trip through the famous Vicksburg National Military Park is always worth while, and when made in a hired automobile only makes the visitor more eager to drive for himself so that he may linger as fancy dictates.

All of Vicksburg—the older sections still surrounded with their ante-bellum atmosphere, the newer sections reflecting progress and prosperity, the old and new river fronts, the industrial activities—all have charm and interest for the visitor. The enthralling beauty of a sunset filled from the top of Fort Hill is well worth the having your own car with you.

THE CONVENTION CITY.

Vicksburg, Mississippi, built along the slopes and crests of the "miniature mountains" of West Mississippi, overlooks the Mississippi and Yazoo rivers, which form its western boundaries and meet near the southwestern limits of the city. The Vicksburg National Military Park forms its northern, eastern and southern boundaries.

Its population is 25,000.

A modern city today, it is an old community, with a story varied, thrilling and romantic.

Established in 1791 by the Spaniards as Fort Nogales, it became United States territory before the close of the Eighteenth Century and was chartered as a city in 1825.

From the viewpoint of transportation facilities, no city is better situated.

On two rivers, it is also served by important trunk line railways. At the head of deep water navigation in the Mississippi Valley, it has a large, safe, land-locked harbor.

It is terminal point for the Mississippi-Warrior Service, which operates a \$400,000 Vicksburg terminal for the transfer of freight to and from rail and river carriers; is served by privately owned Mississippi River steamers, which operate between Vicksburg and New Orleans; and has hourly ferry service to and from Louisiana shore.

Under a recent act of Congress, authorizing the bridging of the Mississippi River at Vicksburg, plans are being developed for the construction of an \$8,000,000 bridge to connect Vicksburg with the rich Louisiana territory west of it.

In order to put Vicksburg into closer touch with the Delta, a \$420,000 bridge across the Yazoo River is being built.

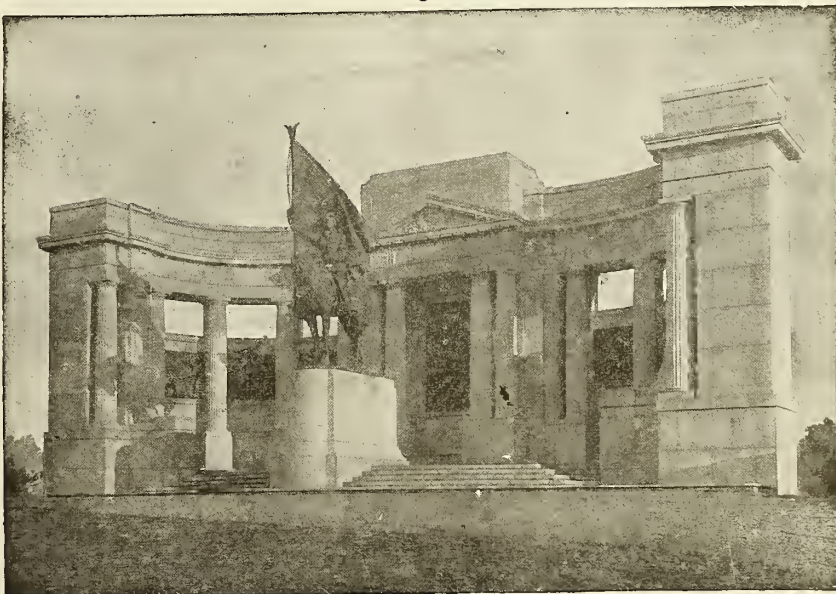
Eight highways, including the Mississippi River Scenic and the Dixie Overland, radiate from Vicksburg as a center and connect it not only with local Mississippi, Louisiana and Arkansas territory but with distant points.

The excellence of its transportation facilities and the fine territory tributary to it have enabled Vicksburg to become the most important wholesale center in Mississippi.

Situated at the junction of the hill and valley sections of West Mississippi, immediately south of the famous Yazoo-Mississippi Delta, and in easy touch with the alluvial sections of North Louisiana and Southeastern Arkansas, Vicksburg's trade territory is rich and prosperous. Its principal crops are cotton, corn, peas, beans, sweet and Irish potatoes, and hay. It is unsurpassed as a grazing country. Pecans and walnuts are indigenous to the soil and figs and peaches and other fruits thrive.

Northwest of Vicksburg, there is, at present, being carried on one of the greatest reclamation projects in the United States. That project, known as the Brunswick Levee, will complete Mississippi's levee line from the Tennessee border to Vicksburg. It will relieve of the menace of floods 500 square miles of rich alluvial lands.

Vicksburg's industrial employees number more than 2,000, and its annual payroll aggregates more than \$2,000,000. Recent additions to its industrial community have been hardwood flooring, ice manufacturing, and ice cream plants and dry docks. Contemplated additions are enlarged shops of the Illinois Central Railway Company.



Iowa State Memorial

Picturesquely beautiful and surrounded by a great military park, it has great interest for the tourist.

The Vicksburg National Military Park embracing 1,322 acres, and traversed by thirty-two miles of metalled driveways, is a reproduction of the lines of siege and defense of Vicksburg in 1863. In the park, many hundreds of bronze tablets tell the thrilling story of the siege. It contains

many handsome national and State memorials. More than \$2,500,000 have been expended in its development.

Vicksburg's hotel facilities are good; there are well conducted, privately operated tourist camps contiguous to it. Short Mississippi River trips may be had to local points of beauty and historic interest; and golfing, fishing, hunting, and boating offer opportunities of out-of-door diversion.



Wisconsin State Memorial

NEW ORLEANS Medical and Surgical Journal

Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

S. M. Blackshear, M. D., *Ex-Officio*
For three years, A. A. Herold, M. D., *Vice-Chairman*; Lucien Ledoux, M. D.
For two years, Oscar Dowling, M. D.; H. W. Kostmayer, M. D., *Secretary*.
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SUBSCRIPTION TERMS: \$3.00 per year in advance, postage paid, for the United States; \$3.50 per year for all foreign countries belonging to the Postal Union.

News material for publication should be received not later than the twentieth of the month preceding publication. Orders for reprints must be sent in duplicate when returning galley proof.

THE JOURNAL does not hold itself responsible for statements made by any contributor.

Manuscripts should be addressed to the Editor, 1326 Whitney-Central Bldg., New Orleans, La.

NEW DISCOVERY MAY EXPLAIN FOOD-POISONING CASES.

A new food poisoning organism discovered by a micro-biologist of the Bureau of Chemistry, United States Department of Agriculture, may possibly aid in explaining many poisoning cases that could not be attributed to organisms of the common food-poisoning group. Organisms of the latter group—known scientifically as the paratyphoid-enteritidis group—are the only ones hitherto recognized as a cause of intestinal disturbances. The new organism, although it has not been identified as any well-defined species, belongs to another group. In appearance it has much in common with the ordinary lactic types used in the preparation of "starters" for butter and cheese making.

The new organism was first believed to be a source of food poisoning when B. A. Linden of the Bureau of Chemistry found it in a sample of imported cheese held responsible for an outbreak at Biddeford, Me., in 1925. Milk cultures of the organism were made and fed to cats in which violent intestinal disturbances were produced within a few hours. The same organism has since been isolated in two other outbreaks, in both of which cheese was the one article of food eaten by all persons affected. Organisms of the old group of food poisoners, so commonly reported to be the cause of food poisoning outbreaks, were not found. In each of these outbreaks the streptococci, the group to which the newly found organism belongs, were recovered and fed in milk cultures to cats with results like the first trials.

So far no sickness has been produced in experimental tests except when milk was used as a culture medium. The organism will grow and multiply on meat and other media, however, and this may possibly leave many avenues open for contaminating human food.

PHILOSOPHY OF LIFE.

Under this caption an advertisement the other day set forth these views of life:

"Did it ever occur to you that a man's life is full of crosses and temptations? He comes into the world without his consent, and goes out against his will, and the trip between is exceedingly rocky. The rule of contraries is one of the features of this trip.

"When he is little, the big girls kiss him; when he is big, the little girls kiss him. If he is poor, he is a bad manager, if he is rich, he is dishonest. If he needs credit, he can't get it; if he is prosperous, everybody wants to do him a favor.

"If he is in politics, it is for graft; if he is out of politics, he is no good to his country. If he doesn't give to charity he is a stingy cuss; if he does, it is for show.

If he is actively religious, he is a hypocrite; if he takes no interest in religion, he is a hardened sinner.

"If he gives affection, he is a soft specimen; if he cares for none, he is cold-blooded. If he dies young, there is a great future for him; if he arrives at an old age, he missed his calling."

We may add the following thoughts:

If he goes to the Medical Convention, he will be neglecting work at home; if he stays at home to attend to his work, he is making no attempt to progress in his profession. At the convention if he merely votes or listens to a paper, he is "letting George do it"; if he takes an active part in order to help the organization, then he is of the clique and wants to run everything.

If a moral must be had, the one to be drawn is that you can not please everybody so put your shoulder to the wheel and do your best as you see it. But in any event, *go to Vicksburg for the meeting of the Mississippi State Medical Association, May 10-12.*

Dr. Charles Thom, in charge of microbiological work for the Bureau of Chemistry, regards the discovery of this organism as the most outstanding achievement of the year in his field of investigation. He further suggests that while there is no danger from this source of poisoning it does offer another forceful argument for the pasteurization of milk before using it in manufacturing dairy products.

A TRIAD

The Royal College of Surgeons; The Lister Centenary; Dr. Rudolph Matas.

Recently, the whole medical world has been illuminated by the brilliancy of the Lister Centenary, held in London, April 5th-7th, by the Royal College of Surgeons.

Towards the close of this festival—probably the most notable convocation in all

its eventful existence—the College further distinguished the occasion by conferring upon Dr. Rudolph Matas its priceless token of appreciation—Honorary Fellowship.

To quote from the presidential address of Sir Wm. MacCormac, at the College's centennial in 1900: "Honorary Fellowship is the greatest distinction it is in our power to bestow, and we regard it as the highest purely surgical qualification obtainable in this country."

It is with great pride, therefore, that the *Journal* echoes our city's unanimous opinion that never before, in all its proud history, has the Royal College of Surgeons of England numbered among its Apostles a loftier spirit and a nobler name than that of this distinguished Louisianian—for so many glorious years, a Peer of the Realm of International Surgery.

* * *

On March 22, 1800, under charter of George III, the Royal College of Surgeons in England was established, slightly changing its title, in 1843, to that of its present form—the *Royal College of Surgeons of England*. It would be unfair to the ancient and honorable record of this illustrious body to omit mention that its roots strike deep into the England of antiquity—various Guilds, Fraternities and Companies weaving themselves, through various patterns of development, into the enduring fabric of today. Hosts of glittering surgical stars shine through the nebulous organizations of remote and later times; but in 1745, the surgeons completely severed themselves from their somewhat heterogeneous associates and formed a company strictly their own. Doubtless it bore a strong resemblance to its descendant of 1800, which still upholds its venerated traditions and maintains its lofty standards.

* * *

Joseph Lister became a member of the R. C. S. in 1852, shortly after acquiring his M. B. from London University College. His epochal papers (1865; 1867) introduced antisepsis into surgical practice, and he

is popularly known as "The Father of Modern Surgery." That he has other manifold claims upon fame is again revealed through the themes of the eminent speakers who graced the Centenary program: "Lister as a physiologist" (Sir Chas. Sherrington); "Lister as a pathologist" (Prof. W. Bulloch); "Lister as a surgeon" (Sir Berkeley Moynihan). Truly royal receptions, imposing religious ceremonies, authoritative professional discussions, were blended into one of the grandest memorial services known to medical history. How could it have been otherwise? Even throughout life, Lister found his pathway strewn with well deserved, if unsought, honors. "His very presence was a spiritual force. That such a man... should rise to lofty heights and achieve great things was inevitable." "Geographically", Lister's career has been thus divided: "A youthful period in Edinburgh (1854-6); Professor of Surgery in Glasgow (1860-69); Professor of Clinical Surgery in Edinburgh (1869-77); the same chair in King's College, London (1877-93). At 66, retiring from active teaching, he was made emeritus Professor of Surgery and Consulting Surgeon to the College Hospital. He was the first medical man to be "elevated" to the British peerage; the second surgeon to be made president of that purely scientific body, the Royal Society. These and numberless distinctions were accorded the man, whose own simple nature and noble heart had ever lifted him above such worldly ambitions. Probably of all his titles he would have loved best that bestowed by Dr. Matas in his eloquent address as retiring president of the A. C. S.: "The greatest benefactor which the science of surgery has given to mankind."

Aged 85, Lister passed beyond the range of earthly sight; but, whose ghostly vision is so dull that it fails to see that luminous soul still lighting the way to continued surgical advancement?

Westminster Abbey has enshrined Lord Lister among the "greatest scien-

tists of the age" in a marble medallion of such transcendent beauty that even a printed reproduction clearly reveals his spiritual loveliness. His mortal remains, however, lie, as he had requested, in West Hempstead cemetery, beside his adored wife, Agnes, daughter of Professor James Syme, the beloved teacher of Joseph Lister's blessed "youthful period."

So it is of the Lister Centenary that we love best to think as one great gathering of the Masters of Surgery, past and present, all participating in unbroken and perpetual fellowship. What a soul-stirring antiphon that must have been, reverberating throughout Great Britain, as the "Choir Invisible" responded to the Chorus Audible, both chanting hallelujahs of joyous assurance that the benefactions of Surgery are spreading themselves over the face of the earth, even as "the waters cover the sea."

CORRESPONDENCE.

Shreveport, La., March 25th, 1927.

Editor New Orleans Medical and Surgical Journal,
New Orleans, La.

Dear Sir:

We are herewith enclosing report of a case of tularaemia occurring in Caddo Parish. Thought probably you would be interested.

Yours very truly,

T. P. LLOYD, M. D.,
Highland Sanitarium.

REPORT OF THE CASE OF TULARAEMIA OCCURRING IN CADDO PARISH.

This disease has been reported from nearly every state in the union. Three southern states not included in the list are Louisiana, Alabama and Oklahoma. Now Louisiana is to be added to the black list.

It is quite possible that tularaemia is occurring more frequent than in former years, or its recognition is becoming more generally known. It behooves us to bear in mind that some obscure infections, hitherto unrecognized, may be tularaemia. This disease may be transmitted through the bite of the blood sucking wood tick or coming in direct contact with infected animals. A potential wide spread infection is imminent among people who handle rabbits, for the reason that the disease is evidently quite prevalent among

these animals as evidenced by the fact that the patient herein discussed advised me that while hunting at various times in Caddo Parish he has seen numerous dead rabbits which died of no apparent cause.

G. L. T.—A white man, age 46—while hunting in Caddo Parish about December 15th, 1926, killed a cotton tail rabbit. On reaching home in the afternoon he cleaned and dressed this animal and while doing so punctured the palmar surface of his right thumb with a spicule of bone. Within three or four days the wound became quite sore and inflamed, assumed the characteristics of an ulcer and did not completely heal for six weeks. Coincidentally there appeared a lymphangitic redness which rapidly extended to the nodes in the axilla. With the onset of this infection he had a severe chill followed by temperature 104, profound prostration, nausea, vomiting, universal body pain and sweating. This acute stage lasted one week during which time he was compelled to remain in bed. Though the high temperature only lasted two or three days, the afternoon temperature remained 101 for ten days. His fever did not entirely leave for two months, the afternoon temperature being 99 to 100 during this period. All the while he was greatly prostrated and was able to be up and about only a part of the day. Even at this time he is unable to do a full day's work and only attempts to put in half time. His chief complaint now is weakness and fatiguability. The lymphatic glands of the right axilla were first involved, five days after original infection, followed by the epitrochlear right and left, both of these becoming quite large. Later the lymphatic glands of both inguinal regions became slightly enlarged and moderately painful on pressure. Only one of the lymphatic glands went to suppuration, this in the right axillary region, which was incised on February 13th, 1927; it contained thick creamy pus, part of which was injected into the peritoneal cavity of a guinea pig on two occasions, with no effect on the pig.

About seven days from the onset of the original infection, a papular eruption of the erythema nodosum type appeared on the dorsal and palmar surfaces of the right hand and wrist, followed in a few days by a similar eruption on the dorsal surface of the left hand. These nodules were hard, endurated and painful. They contained no pus and persisted for three or four weeks, during this period disappearing and returning on three or four occasions. On disappearance of these nodules there were remaining ecchymotic spots which did not entirely disappear for eight weeks.

During the acute illness of this patient, unfortunately there was no blood study made but most cases reported show a marked leukocytosis during

this period. On February 18th, 1927, his red blood count was 4,000,000; white blood count 5,750; hemoglobin 80%; differential not remarkable; urine and Wassermann being negative.

Suspecting this to be a case of tularaemia, we forwarded on February 12th, 1927, some of the patient's blood serum to Dr. Edward Francis of the United States Public Health Service, Washington, D. C. His report on this serum was received a few days later, which is as follows:

"Serum forwarded with your letter of February 12th, arrived February 15th and was found to agglutinate bacterium tularensis in dilutions of 1:10, 20, 40, 80, and 160, but not in higher dilutions, thus confirming your diagnosis of tularaemia."

In an article by Dr. Edward Francis, appearing in the Journal of the A. M. A., May 1st, 1926, he states that the same disease also is endemic in certain provinces of Japan and is called (O'Hara's disease).

To verify the diagnosis of any suspected case of tularaemia patient's blood serum should be sent to Dr. Edward Francis, who will make the necessary examinations and promptly report. It is not known at this time just how long tularaemia blood serum retains the power of agglutination.

One specimen sent to him by Dr. W. S. Kerlin of this place received a positive diagnosis, four years after patient had been bitten by a tick.

United States Public Health Service.

Washington, D. C., February 16, 1927.

Dr. T. P. Lloyd,
Highland Clinic,
Shreveport, Louisiana.

Dear Doctor Lloyd:

Serum forwarded with your letter of Feb. 12th arrived February 15th and was found to agglutinate bacterium tularensis in dilutions of 1:10, 20, 40, 80 and 160, but not in higher dilutions, thus confirming your diagnosis of tularaemia.

I congratulate you on the diagnosis.

The pig inoculated intraperitoneally with 0.4 c.c. pus taken two months after the onset of the disease will probably die, but not due to the tularaemia infection. We have never been able to infect pigs with material taken from a patient after the first month of illness. I should like to have your report on this experiment.

Dr. W. S. Kerlin sent me a serum January 31, 1927, positive for tularaemia, taken from a patient who had his attack in July, 1923. These two are the first cases from Louisiana.

We are ready at all times to test serums.

Very truly yours,

EDWARD FRANCIS,
Surgeon.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of April the Board of Directors has held one regular meeting, and the Society has held one Quarterly Executive Meeting and one special meeting to vote on the revision of the By-Laws.

At the Quarterly Executive Meeting Mr. Marshall Ballard, Editor of the New Orleans Item-Tribune was the speaker of the evening and gave a very interesting talk on the relationship between the Medical Profession and the Press.

The reports of the various special and standing Committees were read.

The following resolutions were adopted on the death of Dr. Edmund Moss and Dr. Philip W. Bohne who died during the past month:

Whereas, By the Will of God, Drs. Edmund Moss and Philip W. Bohne, our Confreres, were taken from among us.

Therefore, be it resolved, That this Society desires to express to the families of Dr. Edmund Moss and Dr. Philip Bohne its regrets and sincere sympathy in their bereavement.

Be it further resolved, That a copy of these resolutions be spread upon the minutes and that a copy thereof be sent to the families of the deceased members.

Rabbi Mendel Silber, Ph. D., M. D., was elected to Honorary Membership in the Society.

Dr. L. W. Alexander and Dr. Edward H. Maurer were elected to Active Membership.

The By-Laws have been completely revised. There is one revision to be made in one article of the Constitution which will be voted on at the next regular meeting.

The Membership of the Society is 485.

REPORT OF TREASURER.

Actual Book Balance, 2/28/27	\$4,157.19
Receipts during March:	\$2,075.92
	<hr/>
	\$6,233.11
Expenditures:	\$1,190.45
	<hr/>
Actual Book Balance:	\$5,042.66
Outstanding Checks:	27.00
	<hr/>
Bank Balance: 3/31/27	\$5,069.66

REPORT OF LIBRARIAN

The second consignment of books from our duplicate collection was sent to the Interns' Library at Charity Hospital on March 15. In

this lot there were 122 volumes, making with the ones sent over before, a total of 250. One list of the titles sent, went with the books and one list when signed by the Superintendent, was placed in our file. This work will continue as rapidly as time from the reference work will permit.

Gifts were received during the month from Dr. T. J. Dimitry, (24 books and miscellaneous journals) and the Medical Library Association (3 books and miscellaneous journals).

57 books were added during the month. Of these 13 were received by binding, among which were the additional volumes added in the re-binding of the sets of Oxford Medicine and Oxford Surgery; 1 by subscription, 30 by gift and 13 from the New Orleans Medical and Surgical Journal.

2 sections of the new shelving have been received and installed, 3 sections more will be added during the summer. The shift necessitated by the additional space is in progress. The nine-drawer filing case is en route for delivery in April.

3 bibliographies have been prepared on subjects as follows:

Erythromelalgia

Cowper's gland

Hernia of Tube and Ovary

These lists have been filed for future use.

The Assistant Librarian very much appreciates the honor which the Board of Directors bestows in naming her the representative of this Library, and sending her to the Medical Library Association in May. She wishes to assure the Board that she will do her best to prove worthy of this honor, and to avail herself of every advantage offered by attendance at this meeting, for the advancement of this Library.

NEW BOOKS—MARCH.

Quarterly Cumulative Index. 1926.

Amer. Assn. of Dental Schools—Proceedings 1926-27.

International Congress of Ophthalmology—Papers. 1922.

Amer. College of Surgeons—List of fellows, 1921-22, 1926.

A. M. A. Section of Ophthalmology. 1917, 1921-25.

Cullen—Accessory lobes of the liver. 1925.

Barton—Symptom Diagnosis. 1927.

- Wilder—Primer for diabetic patients. 1927.
 Graham—Pathology and Treatment of Diabetes Mellitus. 1926.
 Cooper—Histology of the more important human endocrine glands. 1925.
 Henry Ford Hospital—Collected papers. 1926.
 Cope—Treatment of the Acute Abdomen. 1926.
 Palfrey—Specialties in general practice. 1927.
 Nutting—Sound economic basis for schools of nursing. 1926.
 Feinblatt—Transfusion of blood. 1926.
 Amer. Assn. of Medical Milk Commissioners. Proceedings. 1926.
 Radley—Business of operations. 1927.
 Tarnowsky—Emergency Surgery. 1926.
 Eagleton—Cavernous sinus thrombophlebitis.
 H. THEODORE SIMON, M. D.,
 Secretary.

CHAILLE ORATION.

The first Stanford E. Chaillé Oration, held under the auspices of the Orleans Parish Medical Society is published on page 800 of this issue. In connection with it are to be found the remarks by Dr. Ernest Lewis and Dr. Rudolph Matas, concerning Dr. Chaillé.

CORRECTION.

Through a typographical error, the title of Dr. W. J. Otis' case presented at the Joint Clinical Meeting of the Orleans Parish Medical Society and the Charity Hospital Staff was headed as Marcolepsy, instead of Narcolepsy.

INTERNAL REMEDIES USELESS AGAINST EXTERNAL PARASITES.

In the quest for simple means of repelling or destroying external parasites of animals many

laymen have come to put false faith in claims for internal remedies. So numerous and usually so worthless have the claims been, when subjected to scientific test, that the Bureau of Animal Industry, United States Department of Agriculture has issued a statement entitled, "Inefficiency of Substances Fed to Animals to Repel or Destroy External Parasites."

About 25 years ago the bureau carried out experiments in feeding sulphur to cattle or giving them water with sulphur or sulphur compound to ascertain whether such procedure had any effect on external parasites. No effect was ever observed. Similar tests were tried with sheep as far back as 1903 to ascertain any effect on sheep scab. The investigators found that internal remedies were useless.

At various times the bureau has received claims that certain drugs given to animals internally will protect the animals from flies. The Bureau of Entomology likewise has tested products recommended for chickens, in their feed or drinking water, to control lice, mites, and other parasites. The results of such tests have been uniformly negative.

In view of the many dips and other effective preparations that will control external parasites when applied to animals externally, much cruelty may be avoided and best results obtained at least cost by using only tested and proved methods. The general rule is: External remedies for external parasites, and internal remedies under proper prescription and use for internal parasites, most of which are worms. In the use of chemicals and drugs it is best to obtain the services of a trained veterinarian or other person having scientific knowledge of the products used.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

SIXTH DISTRICT MEDICAL SOCIETY.

Some sixty physicians were present at the meeting of the Sixth District Medical Society at the Baton Rouge General Hospital April 13. Dr. A. G. Maylie was elected President and Dr. T. C. Paulsen of Baton Rouge was re-elected Secretary-Treasurer.

After an interesting program the doctors were guests at a dinner given by the Board of Directors. Bogalusa was chosen as the next place of meeting. The program in full was as follows:

Invocation by Dr. B. P. Taylor, pastor of the First Methodist Church of Baton Rouge; Address of Welcome, by Mrs. J. A. Carruthers, Vice-President of the board of directors of Baton Rouge General Hospital; followed by the reading of the minutes, report of committees, report of the Secretary-Treasurer; consideration of unfinished business, new business, and election of officers.

The following were elected vice-presidents: Ascension, Dr. A. W. Martin; East Baton Rouge, Dr. T. J. McHugh; East Feliciana, Dr. E. M. Toler; Iberville, Dr. B. O. LeBlanc; Livingston, Dr. J. A. Thorn; Pointe Coupee, Dr. M. O. Becnel; St. Helena, Dr. H. A. Tynes; St. Tammany, Dr. S. R. Young; Tangipahoa, Dr. Lucius McGehee; Washington, Dr. J. H. Slaughter; West Baton Rouge, Dr. J. A. St. Dizier; West Feliciana, Dr. A. F. Barrow.

The scientific program followed:

"Dislocations of the Semilunar Bones," by Dr. Emmett L. Irwin, New Orleans; "Transfusion in the Treatment of Alimentary Anemia in Children," by Dr. Cecil Lorio, Baton Rouge; "Chronic Middle Ear Suppuration Stimulating Eczema of the External Auditory Canal," by Dr. Rufus Jackson, Baton Rouge; "Points on Nervous and Mental Diseases," by Dr. C. P. May, Clinical Director, East Louisiana State Hospital, Jackson; and a motion picture, "How Biologicals are Made," shown by Dr. M. F. Wilson, of Parke-Davis & Company, New Orleans.

The physicians had dinner at 1 o'clock, and at 2 o'clock inspected the Baton Rouge General Hospital.

At the March meeting of the Natchitoches Parish Medical Society, a moving picture was presented by Dr. M. F. Wilson of New Orleans. Dr. Wilson has charge of the department of experimental medicine of Parke, Davis & Co. His subject was, "How Biologicals are Made."

Dr. Oscar Dowling also made an interesting address before the society and invited the members to visit the health cars of the State Board of Health which are touring the state and happened to be in Natchitoches on that day.

The St. Tammany Parish Medical Society met in regular monthly session on Friday, April 8th, in the parlors of the Southern Hotel in Covington, with the following members present: Doctors C. F. Farmer, President, and in the chair; H. D. Bulloch, Secretary-Treasurer; F. F. Young, L. R. Young, N. M. Hebert, F. R. Singleton, W. L. Stevenson, J. F. Buquoi, H. E. Gautreaux, J. K. Griffith and A. G. Maylie, with Dr. H. W. Kostmayer of New Orleans as the guest of honor and essayist.

Dr. Kostmayer addressed the meeting relative to "Non-Surgical Gynecological Procedures," which proved to be a most interesting and instructive talk. Dr. Kostmayer was made honorary member of the society.

The next meeting of the society will be at Mandeville on Friday, May 13th, 1927.

St. Martin Parish Medical Society has elected the following officers for 1927:

President, Dr. S. D. Yongue, Breaux Bridge; Vice-President, Dr. M. Boudreau, Breaux Bridge; Secretary-Treasurer, Dr. P. H. Fleming, St. Martinville; Delegate, Dr. P. H. Fleming, St. Martinville; Alternate, Dr. J. L. Beyt, St. Martinville.

The 1927 officers of the Vermilion Parish Medical Society are:

President, Dr. G. L. Gardiner, Gueydan, La.; Vice-President, Dr. A. A. Comeaux, Abbeville; Secretary-Treasurer, Dr. Thomas Latiolais, Kaplan; Delegate, Dr. Leo Sparorita, Kaplan.

The Bi-Parish Medical Society met in Clinton, La., February 2nd. An instructive and interesting paper was read by Dr. M. R. Freeman of the East Louisiana State Hospital on "Acute Gastro-Enteritis," discussed by members present. Dr. C. S. Miller of the East Louisiana State Hospital read instructive articles from The Journal of the American Medical Association.

At our next meeting, which will be with the Superintendent and Staff of the East Louisiana State Hospital, the second Wednesday of April, Dr. J. W. Lea of Jackson will read from the Journal of the Louisiana State Society and Dr.

C. P. May of the East Louisiana State Hospital will read a paper on Endocrines.

At our February meeting an enjoyable dinner was served in the Rest Hotel.

An appointment which we believe will meet the general approval of the public was the commission of Dr. Edmond Landry as a successor to the late Dr. M. F. Morvant. Dr. Landry is well fitted to serve as coroner, and while having his commission only a few days has already had the unpleasant duty of holding three inquests on persons run over and killed by the Southern Pacific Railroad.

Through an invitation extended the Lafourche Valley Medical Society by the Third District Medical Society to attend its quarterly meeting to be held in Morgan City, La., on March 8th, the following motored to the "Teche" city and participated: Ayo, Eroche, Gouaux, Parker, Boulet, T. I. St. Martin, T. B. Pugh, N. W. Pugh and C. S. Roger.

The meeting was held aboard a steamboat which steamed some twelve miles up the Atchafalaya River and in more ways than one was considered a novel one. The scientific part of the program was furnished by the presentation of papers by Drs. Dupuy and LeDoux at New Orleans whose papers created a bit of discussion among the membership.

Following the closing of the business and of the meeting, said Third District Society acted as host to the above mentioned visiting members in the offering of a sumptuous banquet.

The LaSalle Parish Medical Society (Physicians' Improvement and Protective Association) met at Urania March 3rd at 2 p. m.

Vice-President, Dr. J. P. Durham, presiding. The President, Dr. T. M. Butler, absent because of personal illness.

Visiting physicians: Drs. R. O. Simmons, D. C. McBride, M. H. Foster and Marion Capple (Alexandria). S. C. Barrow and C. R. Gowan (Shreveport). I. N. Adams (Selma), and C. W. Patterson (Tullos). Local membership was well represented.

Dr. W. V. Taylor outlined, briefly, the history of the society, the purpose of its organization and the work accomplished in the field of organized medicine, calling attention to the outstanding character and high personnel of the membership. He paid a tribute to high standing and reputation in the state of the honorary membership, par-

ticularly eulogizing Dr. I. J. Newton of Monroe and Dr. R. O. Simmons of Alexandria for valuable services rendered organized medicine in Louisiana and in behalf of humanity,—men whose reputations were not locally envied but interstate.

Dr. C. W. Patterson of Tullos was unanimously elected to membership. Upon motion of Dr. R. O. Simmons, seconded by Dr. Taylor, Dr. Kostmayer was elected honorary member amid many very eulogistic remarks by members.

The scientific program consisted in a paper read by Dr. S. C. Barrow of Shreveport, "Radiation in Non-malignant Gynecology." Dr. Barrow was particular in pointing out that there was no conflict between the use of radium and rational surgery. Both having distinct fields of action. Dr. Barrow not only impressed upon his hearers his knowledge of his subject, he threw a flood of light upon the therapeutics and technique of radiology. The paper was well received, was instructive, and entertaining. At its conclusion there was spontaneous and liberal applause, and Dr. Barrow was warmly congratulated.

Dr. D. C. McBride of Alexandria opened the discussion from the standpoint of a radiologist. Dr. R. O. Simmons and Dr. M. H. Foster discussed it from the view point of the surgeon.

Dr. C. R. Gowan exhibited x-ray pictures of pulmonary tuberculosis, showing step by step the reparation process toward recovery and what can be done by almost absolute rest and feeding. These pictures were very instructive and much appreciated.

After adjournment, Dr. O. F. Matthews (host) invited the society and guests to the Domestic Science Building Urania High School, where an elegant lunch was served by the domestic science teacher and her students. After coffee Dr. Foster expressed the appreciation of the doctors for the hospitality shown them.

At the regular meeting of the Rapides Parish Medical Society, held Monday evening, March 7th, at the Baptist Hospital, Alexandria, a scientific program was rendered as follows:

"Metastatic Sarcoma, with report of case and presentation of autopsy specimens," Dr. J. E. Knighton, Shreveport.

"Acidosis," Dr. C. M. Jarrell, Alexandria.

The Baptist Hospital at Alexandria has launched its campaign to raise \$100,000. Among the improvements contemplated are the erection of a

new Nurses' Home to cost \$50,000 and the increase in the number of hospital beds from 60 to 100.

The regular monthly meeting of the staff of the North Louisiana Sanitarium was held on March 22, 1927. Dinner was served by the Sanitarium, following which the regular meeting and scientific program was rendered.

Report of the hospital work for the month of February was given in detail and the deaths were discussed by the doctors in charge of the cases.

Scientific program was given by Dr. Abramson, who reported a case of fracture of both femurs. He also discussed the subject of treatment of fractures of the femur by use of plaster cast, by skeleton traction and by open reduction. The paper was discussed by Drs. Crain, Potts and Stamper.

The regular monthly staff meeting of Our Lady of the Lake Sanitarium was devoted to a paper by Dr. Nicolle on the Application of Physiotherapeutic Measures in the Treatment of Diseases.

The paper covered the various physiotherapeutic modalities and was freely discussed by the members present.

Dr. Perkins of the East Louisiana Hospital, who was an invited guest, was requested to explain to the society the use of the various hydrotherapy measures used at the hospital for the treatment and control of the patients under his care at the East Louisiana Hospital. Dr. Perkins showed by actual figures that the use of hydrotherapy had materially reduced the use of paraldehyde and other nerve sedatives in the control of patients confined in the institution.

In order to stimulate a better attendance at these staff meetings as well as to interest the country members in the facilities of the completely equipped Class A hospital that we have in our midst, each member of the staff was requested to invite a non-member as his guest at the meeting. This plan worked so well that it was decided to repeat the plan at as many meetings as it was found feasible.

After the meeting adjourned the members and their guests were shown through the department of physical therapy of Our Lady of the Lake and the various pieces of hydropathy, electrotherapy and light therapy apparatus and their uses fully explained.

The Southern Railway System through its District Passenger Agent, Mr. G. C. Robson, announces to the New Orleans doctors attending the Ameri-

can Medical Convention in Washington, D. C., May 16th-20, the following transportation:

For a party of approximately fifteen persons traveling on the same train they would be pleased to provide an extra sleeping car. No other travel would be assigned to this car unless it was absolutely necessary to do so in order to accommodate some passenger that could not be cared for in other cars.

Their train, No. 42, leaving New Orleans 8:30 P. M. daily, arrives Washington 7:05 second morning. This is a very convenient schedule and offers the most attractive route to Washington.

They will be pleased to arrange sleeping car reservations and furnish any further information desired.

Dr. P. Jorda Kahle, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the meeting of the Rapides Parish Medical Society held at Alexandria, La., Monday, April 5th, 1927, on "Cystoscopy for Treatment and Diagnosis."

Dr. H. W. Kostmayer, of the Graduate School of Medicine of Tulane University of Louisiana, addressed the meeting of the St. Tammany Parish Medical Society at Covington, La., Friday, April 8, 1927, on "Some Non-Operative Gynecological Procedures."

Dr. P. Graffagnino has recently been appointed Chief of the Surgical Staff of the French Hospital.

Dr. E. Denegre Martin, Dean of the Graduate School of Medicine of Tulane University of Louisiana, addressed the meeting of the Delta Medical Society at Greenville, Miss., Wednesday, April 13th, 1927, on "Industrial Surgery."

DIED: Dr. Philip W. Bohne, New Orleans, died on March 31, aged 46, after an illness lasting over two years. A specialist in the diseases of children, he received his academic and medical training at Tulane University.

Dr. Bohne was a member of the Hotel Dieu staff, physician for the German Protestant Orphan Asylum and an assistant medical inspector in the New Orleans public schools. He was a member of the Orleans Parish Medical Society, the American Medical Association, and the Phi Kappa Sigma Fraternity.

DIED: Dr. Ladislav Lazaro, of Opelousas, La., died in Washington, D. C., on March 30, aged 54, following an operation. Dr. Lazaro had for 14 years served as representative of the Seventh District in Congress. He was dean of the Louisiana delegation in the House. He was ranking Democrat on the House Merchant Marine Committee, and has taken a prominent part in the framing of all legislation in recent years affecting shipping.

He took a leading part in the legislation and other arrangements which led to the authorization of the \$16,000,000 Intracoastal Canal project, the waterway which is to connect the Mississippi with Galveston and Corpus Christi.

Dr. Lazaro was a graduate of Holy Cross College in New Orleans and Louisville Medical College, Louisville, Ky., beginning his practice at Grande Prairie, La. He was a member of several Medical Associations among which are Louisiana State Medical Society and American Medical Association.

DIED: Dr. Edmund Moss, head of the medical department of the New Orleans public school system since 1908, died suddenly of a heart attack Tuesday, March 22, at his home in New Orleans. The funeral was held from the residence of his brother-in-law, Benedict M. Grunewald, 2028 Napoleon avenue, the Rev. Robt. S. Coupland, rector of Trinity Episcopal Church, officiating. Interment was in Metairie Cemetery.

Dr. Moss was born in Bowling Green, Ky., March 22, 1873. He was a graduate of the University of Virginia and of the medical school of Tulane University in 1898. He also did post-graduate work at the University of Virginia.

Besides acting as medical director of the public schools, Dr. Moss was assistant professor of clinical medicine at Tulane University for eighteen years.

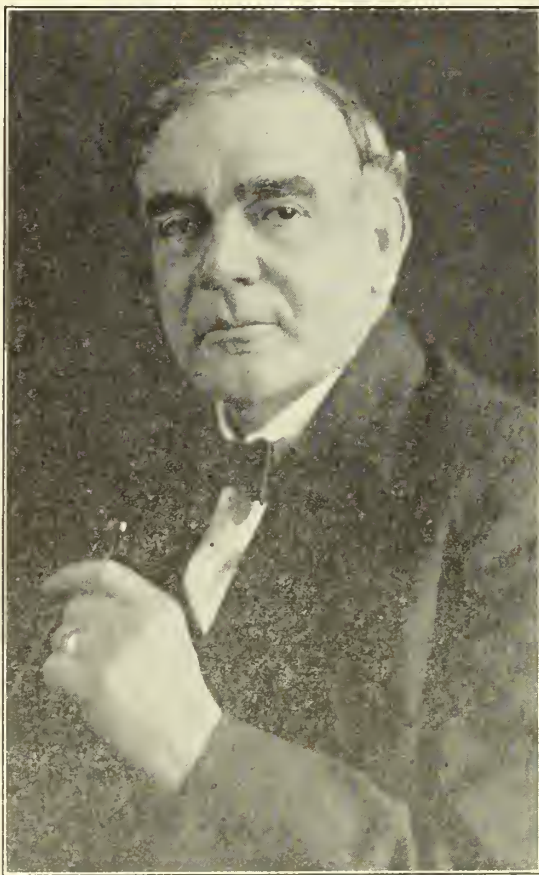
He is survived by his wife, the former Miss May Grunewald, and one daughter, Mrs. Durel Black, of New Orleans.

Color as an aid to surgery has been given additional recognition as the result of research work conducted by Dr. P. J. Flagg of New York City, and the shade indicated as best adapted to the purpose has been produced by du Pont chemists.

In his efforts to determine the color scheme which was most suitable to the operating room in order to provide the necessary illumination, Dr. Flagg, through the use of the Munsell system of color notation, established the fact that a peculiar bluish green is the scientifically correct complement to blood when exposed to air, which gives the required intensity of color in a room where subdued illumination is important to prevent glare, thereby protecting the eyes of the surgeon.

The new color, or shade, is designated as "eye-rest green." Dr. Flagg advocates the use of deep eyerest green on the floor under the operating table and a shading to a lighter tone as the walls are approached, with the walls fading into a deep cream up to and including the ceiling. Also, it is the opinion of Dr. Flagg that the table, gowns, towelings and draperies used should be of the deepest tint of eyerest green.

Study of the proper color scheme for the operating room, with various recommendations, has been made by Dr. H. M. Sherman, of California; Dr. Alexis Carrel, of the Rockefeller Foundation; Dr. Corwin, of Colorado; Dr. Virchow and Dr. Kroenig, of Germany, and others. Dr. Flagg's findings are the latest contribution to the subject and have met with considerable favor in professional circles.



DR. LADILAS LAZARO, Opelousas
Congressional Representative, Seventh District, Louisiana

The Medical Association of Georgia co-operated with the United States Public Health Service in giving diphtheria toxin-antitoxin to more than 25,000 school children within the last two months of 1926. In at least one militia district in the state every child under 10 years of age was immunized.

Experiments recently made by physicians seem to prove that, if a nursing mother has plenty of direct sunlight or is treated by artificial violet rays, she will be able to give her baby what is needed to prevent rickets and also escape for herself the breaking down of the teeth which so often follows the bearing and nursing of children. Other experiments have shown that the ricket-preventing vitamin A is associated with the green color of the vegetables in which it occurs, so that the ordinary garden variety of lettuce is a far better source of energy than head lettuce.

Until the beginning of this year no child born out of wedlock in Great Britain could be later legitimated by the marriage of the parents. On January 1, 1927, an act came into force making this possible, except in cases where either parent was married to a third person at the time the child was born. Legitimation dates only from the time the act came into force even though the marriage occurred earlier. Legitimated children are to have the same rights of inheritance as children born in wedlock, and they have the right to have their births reregistered.

Physicians and nurses in the public service of Italy are traveling throughout the country giving instruction in infant care, child hygiene, care of the sick, and domestic science.

That all babies have a right to their "place in the sun" in order to be assured of normal growth, and that sunlight has the same health-giving qualities on the city fire escape as at the seashore is the message conveyed to mothers in the new one-reel film "Sun-Babies" which has just been produced by the Children's Bureau of the U. S. Department of Labor for use throughout the country.

This picture, which takes about a quarter of an hour in showing, illustrates some of the results of the rickets study made by the bureau in the New Haven clinic, in co-operation with the Department of Pediatrics of the Yale School of

Medicine. In a simple and convincing series of pictures of actual cases studied in the clinic, the film gives a striking portrayal of the disastrous results of lack of sunlight and the marked improvement noted after several months of "taking the sun." Other scenes show how the average mother, whether she live in a city apartment, a suburban home, or on a farm, can give her baby the sun baths which are so important a factor in the prevention and cure of rickets.

A great many babies have traces of the disease and will develop severe rickets unless something is done to prevent it, the bureau says. Prevention and cure are the same—more sunlight for babies!

In an attractive series of baby pictures the film shows that no baby need be sun-starved, for the fire escape, the back porch, or the sunny back yard all are good for sun baths.

"Sun-Babies" will be loaned by the Children's Bureau to responsible persons and agencies with the understanding that the borrower will defray express charges back and forth and guarantee the safe-keeping of the film. Those who desire to purchase the film may also apply to the bureau for information and prices.

The Japanese Festival of Dolls, celebrated on March 3 included thousands of doll "messengers of friendship" sent by children in public and church schools of this country. Each doll has a tiny "passport" giving its name and the name and address of the child or group by whom it was dressed, and a message written by the children themselves. This festival in honor of home training and household ideals lasts for three days, and the treasured family dolls are brought out from the family storehouses. The dolls from America were received by a committee from the Japanese department of education, which distributed them in the public schools, but 48 of them already selected to represent the 48 states, were given a place in the Imperial Museum at Tokio.

It has long been held that civilization has an ill effect upon the physical condition of primitive peoples, but an examination of the teeth of over 6,000 Bantu children living in Kraal villages of whom were free from dental defects, while fully 45 per cent had at least mild physical defects due chiefly to malnutrition.

Wisconsin sends out a traveling children's clinic called the "Child's Welfare Special," which visits rural communities remote from cities and hos-

pitals. During the past five years this "Special" has traveled about 30,000 miles, visiting 70 counties of the state and examining 23,579 children. Most of the children were infants or of preschool age, and more than three-fourths of them were found to have preventable or remediable defects. The doctor and nurse of the "Special" give no medical treatment but provide the parents with records of the physical difficulties of their children and suggest that they be taken to the family doctor. This traveling clinic is very popular, and many requests are received from parents, teachers, and local officials for its return.

New Haven, Conn., seems to have found a pleasant and effective way to spread the gospel of diphtheria prevention. The health officer sends to each baby in the city on his first birthday a pretty birthday card, with a letter to the parents calling attention to the importance of protecting the child against diphtheria. The city reported but one death from the disease during 1926.

In this connection, the Metropolitan Life Insurance Company reports for the year 1926 a new low death rate for diphtheria among its policyholders. It asserts that there is no good reason why the mortality from this scourge of childhood should not continue to decrease until it becomes negligible.

About 16 years ago physicians in this country began the general practice of dropping a medicinal solution in the eyes of new-born babies in order to prevent ophthalmia neonatorum, or blindness resulting from eye infection at birth. The treatment is proving effective, for while 25 years ago one of every three children in the schools for the blind in the United States was blind from this cause, in 1926 the proportion had been reduced to about one out of every ten.

As an indication of the success which may follow special efforts by the health authorities, Maryland's two state schools for the blind reported not a single pupil admitted in 1925 who was blind from this type of eye infection. The state has made the disease reportable, like diphtheria or smallpox, and its board of health supplies the preventive solution to physicians free of charge.

The New York Maternity Center Association takes care of pregnant women and last year—1926—it was so successful in this work that not a single one of the 2,000 mothers cared for died as the result of childbirth. If this group had shown the same maternal death rate as that for the city in general, 8 or more of the 2,000 would have lost

their lives. The association formerly gave care exclusively to poor women, but last year it offered its services to mothers of the professional and salaried classes and nearly 200 such mothers took advantage of them.

Courses for graduate physicians and for midwives on parental and postnatal care were opened in January by the National Bureau of Maternity and Infant Welfare of Italy. Diplomas showing satisfactory completion of the prescribed course will be required of all applicants for positions with institutions or agencies established or subsidized by the bureau.

Rome's municipal government has arranged to remove adenoids free of charge in the case of public-school pupils needing the treatment. It has started a survey to discover all such children, and is undertaking a campaign to familiarize parents with the importance of having adenoids removed.

The Governor of Rome has decreed that special classes for mentally defective children shall be established in that city and be in charge of trained teachers. Pupils who prove delinquent or show no improvement after two years' attendance are to be placed in institutions, provision for which is almost made in the decree.

A National Child-Welfare Conference has recently been held in Japan under the auspices of the Japanese Central Social Work Association. The 350 delegates represented both public and private agencies and came from all parts of the empire. They discussed the problems of certain classes of children in need of special care, the desirability of child-welfare legislation and of subsidies from the Government, and suggested the inclusion of unmarried mothers and deserted wives as beneficiaries of the mothers' pensions proposed for widows and their children in a bill drafted by the present Japanese ministry.

New York has recently organized a crippled children's bureau in its state department of education. This bureau is to maintain a register of all physically handicapped children (not including the deaf and the blind) and to devise a plan of co-operation among children's court judges, county officials, local school authorities, private and public agencies, and parents. On the order of the children's court, the counties are to be chargeable with the cost of the physical care and educa-

tion of such children, but they will be reimbursed by the state for one-half such expenditure if the order is approved by the state commissioner of health.

Before a child can enter public school or kindergarten in Mexico, the Federal Government has ordered that he must be given the Schick test for diphtheria and the Dick test for scarlet fever. Preventive treatment is given in cases of positive reaction, and both tests and treatment are free of charge.

SUMMER CLINICS, CHICAGO MEDICAL SOCIETY.

Announcements and schedules will soon be ready for the 1927 Summer Clinics of the Chicago Medical Society, supported by many of the largest hospitals in the city, among them being the Post Graduate Hospital, Chicago Memorial Hospital, University of Illinois College of Medicine, Cook County Hospital, Michael Reese Hospital, Mercy Hospital, Presbyterian Hospital, Jackson Park Hospital, St. Luke's Hospital, Ravenswood Hospital, Mount Sinai Hospital, Francis Willard Hospital, West Suburban Hospital, Evangelical Hospital, North Chicago Hospital, Chicago Lying-in Hospital, St. Joseph Hospital, Alexian Brothers Hospital, Laboratory of Surgical Technique, Washington Park Hospital, Jackson Park Hospital, Chicago Municipal Tuberculosis Sanitarium, John B. Murphy Hospital. Several of our large laboratories have also agreed to co-operate with us in this great work.

In 1926 we limited registrations to physicians living in Illinois, but our increased facilities make it possible to accommodate many more than last year. Registrations therefore will be open to physicians from other states and to as many as may be accommodated, in the order of their registrations. Registration fee will be \$10 for each two weeks course, payable at time of registration, and a physician may register for only one course of two weeks.

Admission will be by card only, issued by the Chicago Medical Society and no registration card will be issued until registration fee is paid.

The first two weeks course will begin on Monday, June 13th, 1927, at 9 a. m., ending Friday, June 24th.

The second two weeks course will begin on Monday, June 27th, at 9 a. m., ending Friday, July 8th.

This is an excellent opportunity for the medical men of the country to obtain real post graduate work in some of the best hospitals in the world, and from some of the best clinicians found anywhere.

Schedules will be sent to the 10,000 physicians in Illinois, and announcements will be sent to the American Medical Association, and the several state medical journals.

We will probably be unable to accommodate all those desiring this wonderful clinical course, so it behooves physicians to register early if they desire to take advantage of this year's summer clinics. Last year our registrations closed one week after the first announcement.

ASSOCIATE BACTERIOLOGIST (MEDICAL).

Applications for associate bacteriologist (medical) must be on file with the Civil Service Commission at Washington, D. C., not later than May 10.

The examination is to fill a vacancy in the Hygienic Laboratory of the Public Health Service, Washington, D. C., at \$3,600 a year, and vacancies occurring in positions requiring similar qualifications, at approximately the same rate of pay.

The duties are to perform independently or with associates or through subordinates, work of major importance in bacteriology.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience; and a thesis or publications on some subject connected with bacteriology, to be filed with the application.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

CONVENTION PROGRAM.

Meeting Place—General Sessions—Junius Ward Johnson Memorial Y. M. C. A., corner Clay and Monroe Streets.

Meeting Place — Eye; Ear, Nose and Throat Section — Assembly Hall, Carnegie Library, corner South and Monroe Streets.

Public Session — Auditorium, Carr Junior High School, Cherry Street.

Invocation — Rev. Geo. H. Thompson, Pastor, Crawford Street Methodist Church.

Address of Welcome on Behalf of the City of Vicksburg — Hon. W. H. Hossley, Mayor.

Address of Welcome on Behalf of the Issaquena-Sharkey-Warren County Medical Society—Dr. Edley H. Jones, President.

Invocation—First General Session — Rev. Gordon M. Reese, Rector, Holy Trinity Episcopal Church.

Scientific and Commercial Exhibits at the Y. M. C. A.

Hotel Reservations may be arranged through Dr. J. A. K. Birchett, Merchants National Bank Building, Vicksburg.

WOMAN'S AUXILIARY.

Mrs. S. W. Johnston, President, Vicksburg

Tuesday A. M., May 10 1927.

9:00 A. M.....Registration Park Hotel
1:00 P. M.....Executive Board Meeting
Annex Crawford Street Methodist Church,
Corner Crawford and Cherry Streets.
3:30 P. M.....Ride and Tea
Wednesday, May 11, 1927, Library
9:30 A. M.....General Meeting
Invocation.....Mrs. E. F. Howard

Addresses of Welcome:

On Behalf of the Woman's Auxiliary to Issaquena - Sharkey - Warren County Medical Society.....Mrs. I. C. Knox

On Behalf of the City of Vicksburg.....
.....Mrs. M. H. Bell
Response to Addresses of Welcome.....
.....Mrs. E. L. Posey, Jackson

Roll Calls.

Appointment of Committees.

Reports.

Address—Dr. T. E. Ross
Hattiesburg

12:00 M.....Adjournment

1:00 P. M.,

Auxiliary Luncheon

5:00 P. M.....Tea

At the Home of

Mrs. Sydney W. Johnston,
1320 Baum Street

Thursday, May 12, 1927

9:30 A. M.....Call to order

Invocation.

Reading of Minutes.

Reports of Committees.

Election of Officers.

Unfinished Business.

Ride through National
Military Park.



DR. T. E. ROSS, Hattiesburg, Miss.
President, Mississippi State Medical Association.

Theophilus Erskine Ross, the President of the Mississippi State Medical Association, was born in Philadelphia, Neshoba County, Mississippi, February 18, 1864.

He is the son of Robert M. and Susan Spears Ross.

The family moved to Meridian, Mississippi, during the winter of 1868-69, his father dying in September of the latter year. His mother moved back to Neshoba County on a farm in the Sand Town community.

As a small boy he attended school at Forest Dale Academy. His services were soon required on the farm, so that his school days were at an end.

After reaching manhood, he studied medicine in the city of Baltimore, graduating from the College of Physicians and Surgeons (later merged with the University of Maryland), in March, 1888.

He practiced medicine in his home county four years, moving to Hattiesburg in May, 1892; where he has since resided.

On November 8, 1892, he married Miss Dora Mars of Cushtusa, Neshoba County, Mississippi.

There were six children born of this union, five of whom are now living. The eldest, Dr. T. E. Ross, Jr., is now associated with his father in the work at Hattiesburg.

Dr. Ross has actively aided in the building of his home city, and is now associated with many of its most successful business enterprises.

He has served as President of the Board of Directors of the Mississippi Woman's College since the founding of the College.

He is the pioneer of the hospital movement in Hattiesburg, opening a small hospital in March, 1900, which action has now culminated in the building of the new magnificent Methodist Hospital on the site occupied by his old building, the Hattiesburg Hospital.

He is now a member of the Surgical Staff of the new hospital.

Being of a surgical trend of mind, he has given his professional attention, mainly, to industrial and general surgery.

He served the Gulf and Ship Island Railroad, as its Chief Surgeon, twenty-two years, and has served, as Chief Surgeon of the Mississippi Central Railroad, since its construction. He, also, is Surgeon for several of the large industrial plants of Hattiesburg.

He served the State as a member of the State Board of Health from 1908 to 1916. He is Past President of the South Mississippi Medical Society and was elected President of the Mississippi State Medical Association in May 1926.

MISSISSIPPI RADIOLOGICAL ASSOCIATION

On the evening of May 9, at the Y. M. C. A. building, will be held the Annual Program of the Mississippi Radiological Association. A dinner at 7 p. m. will precede the program.

SCIENTIFIC PROGRAM.

Remarks by the President—A. C. Payne, Greenville.

The Physics of X-rays—D. M. Nelson, Ph. D., Clinton.

Roentgenological Diagnosis of Gall Bladder Disease—G. M. Street, Vicksburg.

Additional Discussions—S. H. Hairston, Meridian; Carl Day, Yazoo City.

Deep Therapy—W. W. Crawford, Hattiesburg.

Additional Discussions—R. C. Finley, Greenville; Augustus Street, Vicksburg.

Duodenal Pathology, Distal to the Bulb—W. F. Henderson, New Orleans.

Additional Discussions—M. W. Rainold, Gulfport; J. G. Gardner, Columbia.

The Present Status of Radium—W. H. Anderson, Booneville.

Additional Discussions—J. P. Wall, Jackson; J. W. Barksdale, Jackson.

An X-ray Study of the Chest—E. D. Kemp, Sanatorium.

Additional Discussions—Marcus Beekman, Natchez; Maury McRea, Corinth.

The Damage Suit Problem—G. E. Adkins, Jackson.

Additional Discussions—J. H. Rush, Meridian; W. A. Dearman, Gulfport.

Round Table Discussion of all subjects.

Those having assigned subjects are limited to ten minutes each, others five minutes each.

Business session.

Election of officers.

Adjournment.

The following is a letter from the President of the Auxiliary to the Issaquena-Sharkey-Warren County Medical Society:

Dr. J. S. Ullman,

Associate Editor of N. O. M. & S. J.,
Natchez, Miss.

Dear Dr. Ullman:

On behalf of the ladies of the Auxiliary to the Issaquena-Sharkey-Warren County Medical Society, I want the wives of the Doctors throughout Mississippi to know with what great delight and eager anticipation we await their arrival as our guests in Vicksburg at the Convention to be held May 10th, 11th, 12th.

We are looking and hoping for a record number of the Doctors' wives even as the Doctors of the Issaquena-Sharkey-Warren County Medical Society plan to entertain the largest number yet attending the M. S. M. A.

We want each Doctor's wife to feel she is especially invited and expected and to know that her place cannot be filled by any other.

It has been Vicksburg's honor and privilege to act host for the M. S. M. A. and the wives of the Association before this time and we realize the great pleasure that is to be ours in May.

Respectfully yours,

(Signed) MRS. I. C. KNOX, President,
Auxiliary to Issaquena-Sharkey-
Warren County Medical Society.

PROGRAM.

General Meeting—First Day

Tuesday, May 10, 1927.

Session 9:30 A. M. to 12; 1:30 P. M. to 6 P. M.
Y. M. C. A. Building.
(Clay and Monroe)

OPENING EXERCISES.

1. Call to order. President T. E. Ross, Hattiesburg.

2. Invocation. Rev. Gordon M. Reese, Vicksburg.

3. Report of Committee on Arrangements.
Section on Eye, Ear, Nose, and Throat.
D. C. Montgomery, Greenville, Chairman.

1. Some Recent Advances in Ophthalmic Surgery. Victor Smith, New Orleans. Discussion to be opened by E. L. Posey and B. S. Guyton.

2. Obscure Mastoid Infection in Infants. Arthur M. Alden, St. Louis. Discussion to be opened by L. S. Gaudet and C. A. McWilliams.

Section on Medicine.

S. E. Eason, New Albany, Chairman.

1. Visceral Pain: Its Interpretation and Treatment. T. B. Holloman, Itta Bena. Discussion to be opened by J. C. Culley and C. B. Mitchell.

2. Some Observations on Malaria. Leon S. Lippincott, Vicksburg. Discussion to be opened by M. Beekman and J. B. Black.

3. Political Economy in the Practice of Medicine. James C. Rice, Natchez. Discussion to be opened by W. H. Frizell and C. E. Catchings.

4. In What Way Can the Interest of the General Practitioner Help in the Campaign Against Cancer. Jos. C. Bloodgood, Baltimore. Discussion to be opened by W. W. Crawford and J. W. Gray.

5. Rickets: Diagnosis and Treatment. Joe E. Green, Richton. Discussion to be opened by B. T. Robertson and W. D. Beacham.

6. Physiotherapy. C. L. Barber, Lansing, Michigan. Discussion to be opened by L. B. Austin and A. J. Brown.

7. Syphilis. W. E. Noblin, Yazoo City. Discussion to be opened by P. W. Rowland and W. L. Britt.

8. The Prevention of Pernicious Anemia, and Its Cure by the Minot-Murphy Diet. Dr. Seale Harris, Birmingham, Ala. Discussion to be opened by W. A. Dearman and G. W. F. Rembert.

9. Carbuncle, with Especial Reference to that of the Upper Lip. C. A. Sheely, Gulfport. Discussion to be opened by H. R. Shands and S. H. Hairston.

10. Etiology of Benign Hypertension. Otis S. Warr, Memphis, Tenn.

11. The Management of Benign Hypertension. G. W. F. Rembert, Jackson. Joint discussion to be opened by R. D. Sessions and J. B. Howell.

12. Blastomycetes of the Lung and Mediastinum. O. H. Beck, Greenville. Discussion to be opened by G. W. F. Rembert and L. S. Lippincott.

Evening Session—Eight O'Clock

Tuesday, May 10, 1927.

Carr Junior High School (Cherry Street)

To Which the Public Is Cordially Invited

1. Invocation. Rev. Geo. H. Thompson, Vicksburg.

2. Addresses of Welcome:
On Behalf of the City of Vicksburg—Mayor W. J. Hossley.

On Behalf of the Issaquena-Sharkey-Warren County Medical Society—President Edley H. Jones, Vicksburg.

3. Responses to Addresses of Welcome:
W. H. Anderson, Booneville.

4. Annual Oration—"The Importance of Periodic Examinations as Brought Out in the Follow-up System During Twenty-Five Years Experience in the Prevention of Cancer and Other Diseases, and in the Earlier Recognition of Cancer and Other Diseases." Jos. C. Bloodgood, Baltimore.

5. President's Address: "The Genesis and Development of the Science of Medicine." T. E. Ross, Hattiesburg.

General Meeting—Second Day

Wednesday, May 11, 1927.

Session 9 A. M. to 12:30 P. M.

Y. M. C. A. Building—Clay and Monroe

Section on Hygiene and Public Health

Daniel J. Williams, Gulfport, Chairman

1. The Role of the Private Practitioner in a County Health Program. J. M. Kittrell, Pascagoula. Discussion to be opened by C. M. Shipp and S. B. McIlwain.

2. Control of Contagious Diseases in Children. W. H. Frizell, Brookhaven. Discussion to be opened by J. M. Dampeer and W. E. Noblin.

3. The Control of Tuberculosis in Infants and Children. H. F. Garrison, Jackson. Discussion to be opened by Henry Boswell and D. W. Jones.

4. The Problem of Venereal Disease Control. E. H. Linfield, Gulfport. Discussion to be opened by T. P. Sparks and S. Myers.

5. The Relationship of Mental Deficiency to the Field of General Medicine. H. H. Ramsey, Ellisville. Discussion to be opened by F. J. Underwood and T. F. Willson.

Two O'Clock Wednesday Afternoon.

Y. M. C. A. Building—Clay and Monroe

Periodic Health Examination—A Practical Demonstration. W. A. Dearman, Gulfport, and J. S. Ullman, Natchez.

Section on Eye, Ear, Nose and Throat.

D. C. Montgomery, Greenville, Chairman

Special Session—Assembly Hall Carnegie Library
(South and Monroe Streets)

Wednesday, May 11, 9 A. M. to 1 P. M.

1. Otitis Media. E. Leroy Wilkins, Clarksdale. Discussion to be opened by E. H. Jones and Fern Champenois.

2. The Relative Importance of Glasses. W. A. Stevens, Gulfport. Discussion to be opened by M. H. Bell and W. B. Dobson.

3. The Topical Application of Cocaine to the Nose. E. F. Howard, Vicksburg. Discussion to be opened by L. S. Gaudet and E. LeRoy Wilkins.

4. Injuries of the Orbital Portion of the Optic Nerve. D. H. Anthony, Memphis, Tenn. Discussion to be opened by H. L. Arnold and B. S. Guyton.

5. Dental Cysts. Charles A. McWilliams, Gulfport. Discussion to be opened by Geo. E. Adkins and C. C. Buchanan.

6. Headaches Due to Refractive, Accomodative, and Muscular Anomalies—W. S. Sims, Jackson. Discussion to be opened by E. L. Posey and W. S. Harper.

General Meeting—Third Day.

Thursday, May 12, 1927.

Session 9 A. M. to 12; 1:30 P. M. to 4 P. M.

Y. M. C. A. Building—Clay and Monroe

Section on Surgery

John Darrington, Yazoo City, Chairman

1. Disabilities and Deformities of the Feet. F. H. Hagaman, Jackson. Discussion to be opened by H. R. Shands and J. S. Ullman.

2. Post-operative Massive Collapse of the Lung. J. A. Crisler, Jr., Memphis, Tenn. Discussion to be opened by B. B. Martin and E. H. Galloway.

3. The Management of Patients with Rectal Fistulae. W. E. Sistrunk, Rochester, Minn. Discussion to be opened by J. W. Barksdale and W. L. Britt.

4. The Management of the Hemorrhages of Pregnancy. C. Jeff Miller, New Orleans. Discussion to be opened by J. W. D. Dicks and W. W. Smithson.

5. Intracranial Injury in the Newborn. F. G. Riley, Meridian. Discussion to be opened by N. C. Womack and Geo. H. Spivey.

6. Removal of a Bullet from the Walls of the Heart. Carrol W. Allen, New Orleans and M. L. Flynt, D'Lo. Discussion to be opened by C. T. Chamberlain and C. C. Hightower.

7. Factors of Safety in Surgery of the Biliary Tract. W. H. Parsons, Vicksburg. Discussion to be opened by T. E. Ross, Jr., and J. P. Wall.

8. Thyroidectomy. J. C. Culley, Oxford. Discussion to be opened by H. A. Gamble and W. H. Frizell.

9. A Valuable Post-operative Measure in Serious Cases. Julius Crisler. Discussion to be opened by W. W. Crawford and S. H. Hairston.

10. The Value of Routine Wassermann in Surgical Cases. S. W. Johnston, Vicksburg. Discussion to be opened by H. N. Mayes and V. B. Philpot.

11. Liver Abscess with Case Reports. A. Street, Vicksburg. Discussion to be opened by T. W. Holmes and W. H. Sutherland.

Miss Gladys Eyrych, Supervisor of the Division of Mouth Hygiene, Mississippi State Board of Health, will spend six weeks, June 1st to July 15th at Columbia University making a special study of nutrition as related to Mouth Hygiene.

Doctor T. P. Haney, Jr., a native Mississippian, graduate of A. & M. College, class of 1920, graduate of medical department of University of Virginia, class of 1926, having been engaged in hospital work since the date of his graduation until six months ago when he was sent to the International Health Board training school for health officers at Montgomery, Alabama, has been elected full-time Health Officer of Tishomingo County. Doctor Haney succeeds Doctor F. T.

Carmack as county health officer of that county. Doctor Carmack was one of the most progressive part-time health officers in the state and it was due to his work that a full-time health department was established.

Pike, Lincoln, Lauderdale, and Yazoo counties are planning full-time health departments beginning January 1, 1928.

The U. S. Bureau of the Census, represented by Mr. W. H. Lackey, is giving Mississippi the final test on the registration of births and deaths at this time. The test will be concluded about May 15th. Doctor R. N. Whitfield, Director of the Bureau of Vital Statistics, the State Health Officer, and all members of the staff have done their utmost to secure the required 90% registration of births and deaths, and if the state fails in the test it will be the fault of a comparatively few physicians, undertakers, and midwives who have failed in their duty to the state and to their clientele.

The Mississippi State Board of Health will hold the regular annual meeting on Monday, Tuesday, and Wednesday, June 20, 21, 22. Examination of applicants for the practice of medicine will be conducted on the 21st and 22nd.

The regular quarterly meeting of the Homochitto Valley Medical Society was held in Natchez on the afternoon of April 14. The following program was presented:

"Disabilities of the Hip Joint," by Dr. Frank Hagaman, Jackson.

"The Value of Periodic Health Examinations," by Dr. J. W. D. Dicks.

"Tularemia with Case Report," by Dr. J. S. Ullman.

The Society ordered the papers of Dr. Dicks to be published in the local papers of the five counties comprised by this society. The society also ordered conveyed to Dr. B. R. Clark of Lorman its sympathy on the death of his mother, Mrs. M. E. Clark, who also resided in Lorman.

The Clarksdale and Six Counties Medical Society met in Clarksdale, March 24, 1927. The following program was presented:

"Cholecystitis"—Dr. S. D. Robinson, Clarksdale.

"Medical and Surgical Treatment in Prostatic Hypertrophy"—Dr. Russell A. Hennessey, Memphis.

"Method of Procedure in Stomach Cases"—Dr. Henry G. Rudner, Memphis.

"Bronchial Asthma"—Dr. B. S. Guyton, Oxford.

"The Knee Joint"—Dr. Alphonse H. Meyer, Memphis.

"A Short Talk on Surgical Diagnosis"—Dr. John Darrington, Yazoo City.

"The Early Diagnosis of Tuberculosis"—Dr. Henry Boswell, Sanatorium.

"The Life of Louis Pasteur"—Dr. J. Percy Wall, Jackson.

Dr. Harry G. Fridge of Denco, Mississippi, was accidentally killed, March 21, 1927, when his automobile was wrecked against a tree by the road side. He was returning from a call and it was presumed that he had fallen asleep while driving.

Dr. Fridge was born August 4, 1879, and was graduated in medicine from Tulane University of Louisiana in 1904. He practiced in Sanford, Mississippi, for eleven years and served one year in France during the World War. He was a member of the East Mississippi Medical Society, Mississippi State Medical Association, and the American Medical Association. He was a member of the American Legion and a 32nd degree Mason.

The South Mississippi Medical Society has announced that its next meeting will be in Hattiesburg, June 9th.

The new Methodist Hospital has been completed and is now open to patients.

Dr. White of Sarah, Mississippi, has moved to Tate County.

The Staff Meeting of the Vicksburg Sanatorium was held April 9. The following program was presented:

"Cancer of the Stomach"—Dr. A. Street.

"Blood Creatinine Retention in Nephritis"—Dr. G. M. Street.

"Pneumonia Complicating Pregnancy in a Young Woman"—Dr. J. A. K. Birchett, Jr.

"Electrocardiography"—Dr. L. J. Clark.

The regular meeting of the Issaquena-Sharkey-Warren County Medical Society was held April 12, 1927, with the following program:

"Digitalis Therapy"—Dr. L. J. Clark, Vicksburg.

"Backache"—Dr. Thomas P. Sparks, Jackson.

"A Paper"—Dr. Francis Weille, Boston, Massachusetts.

"Discussion—Medical Ethics"—Opened by Dr. E. F. Howard Vicksburg.

Dr. J. A. Neill, formerly of Forest, Mississippi, is now located at 1407 State Line, Waldo, Arkansas.

Dr. R. B. Cunningham of Booneville, Prentiss County, was voted membership in the North East Mississippi Medical Society at its last meeting at Amory. Dr. Cunningham is a 1926 graduate of Tulane and is associated with the Sutherland Clinic at Booneville, Mississippi.

MAY FIRST—CHILD HEALTH DAY.

That state, county, city, and community is wisest which best conserves the health of its children.

Children, well born, well nourished, and well trained, insure the future stability of the Commonwealth. To impress these facts upon the public conscience, our state is annually setting aside May 1st as Child Health Day. The growing interest in Child Health Day is commendable. Each succeeding May Day should be a day of thoughtful planning for the future conservation of child health in the state.

The State Board of Health most heartily approves the observance of May 1st as Child Health Day and earnestly urge that all citizens, all organizations, and all municipalities observe this day by planning constructively for future health and happiness of little children to the end that the opportunity for complete physical, mental, moral and religious development may be the heritage of every child.

For plans and suggestions for a May Day program, write to Mrs. Cliff Davis, State May Day Chairman, Amory, Miss.

The June meeting of the North East Mississippi Medical Society will be held at Corinth out at Shiloh Park, the noted battle ground where the last battle without breast works was fought.

Dr. E. J. Banks of Baldwyn has moved to Jackson, Mississippi, to become a member of the staff at the Insane Hospital. Dr. W. H. Anderson of Booneville has been appointed in his stead as county health officer.

The Program Committee of the Central Medical Society has adopted the plan of having individual

counties furnish the entire program for certain meetings of the society. The State Charity Hospital was the general subject when Hinds County presented the program at the March meeting.

"Eye, Ear, Nose, and Throat Services"—Dr. M. L. Batson.

"Genito-Urinary Services"—Dr. P. R. Greaves.

"Pediatric Service"—Dr. N. C. Womack.

"Medical Service"—Dr. G. W. F. Rembert.

"Surgical Service"—Dr. A. E. Gordin.

"Consulting Staff"—Dr. Julius Crisler.

"Hospital, Its Aims and Means"—Dr. S. R. Boykin.

TUPELO HOSPITAL STAFF MEETING.

The Medical Staff of the Tupelo Hospital meeting at its regular time, the second Tuesday night of each month, discussed the deaths and cases of unimprovement that had been discharged from the hospital during the month.

One death due to cirrhosis of liver, following operation. This patient had worked up to within two or three days of going to bed. Following consultation an exploratory operation was performed. On opening up, the liver was found to be enlarged, with white nodules about on the surface.

Another case of gunshot wound of abdomen which took off one-third of the liver.

Another case of stillborn following a foot and cord presentation in a primipara thirty-eight years of age. The cord was pulsating to within one hour before delivery was completed.

The unimproved cases: A male adult, age fifty-four years, was brought to hospital following a mule kick over the cardiac area. Pleural effusion was the diagnosis made, and verified by the x-ray. Following this in about twenty days a greatly hypertrophied heart with pericardial effusion was found.

Another case of neurasthenia in an old lady eighty years of age, was in hospital for a few days because she had no where else to go.

The hospital discharged thirty-seven well. Forty-one improved. Four unimproved. Two deaths within forty-eight hours. One death institutional. In this group we had three labors and three new born. Six consultations. The two deaths were surgical.

Month ending March 31, 1927.

BOOK REVIEWS

Principles and Practice of Oral Surgery: By S. W. Silverman, D. D. S., F. A. C. D. Philadelphia, P. Blakiston's Son & Co. 1926.

In this book the author has contributed a splendid volume to the literature of oral surgery. The subjects are very adequately presented and discussed, both from the surgical and dental points of view. In his work Dr. Silverman has stressed the importance of dependence of the surgeon upon the dentist, and vice versa, in the treatment of oral diseases; and is able to emphasize this in the chapter on fracture of the jaws. The various diseases and malformations affecting this part of the body—from the simplest mucus cyst or dento-alveolar abscess, to the most hopeless malignant growth—are very plainly and masterfully written. His chapter on plastic surgery and cleft lip and palate are very interesting and present several new thoughts on the subjects. The book has been very splendidly closed with a chapter on the training of speech after cleft palate operations—written by G. Hudson Makuen. The only one appreciable, but still not very serious handicap to the book, is that Dr. Silverman has failed to incorporate a table of contents.

FRANK L. LORIA, M. D.

A Sound Economic Basis for Schools of Nursing and Other Addresses: By Mary Adelaide Nutting, R. N., M. A. New York and London, G. P. Putnam's Sons. 1926.

Medical and nursing literature is enriched and the cause of nursing education advanced by the publication of Miss Nutting's addresses. Among the most noteworthy of the addresses are those entitled, "A Sound Economic Basis for Schools of Nursing," "Some Problems of Training Schools for Nurses," "The Training of Visiting Nurses," "The Social Services of the Visiting Nurse," "The Evaluation of Nursing Education from Hospital to University," and "Thirty Years of Progress in Nursing." The book will be of genuine value in presenting to the lay and to the medical public the necessity of sufficient endowments for schools of nursing and of changing the system of nursing education from the medieval apprentice system to the modern university.

FRANCIS M. MUNSON, M. D.

Practice of Preventive Medicine: By J. G. Fitzgerald, M. D., L.L. D., F. R. S. C. 2d ed. St. Louis, C. V. Mosby Co. 1926.

An excellent book for municipal medical officers, school directors, general practitioners, nurses, as well as university professors and their classes.

The grouping and classification of diseases and the arrangement of the matter is logical, but its facilities as a quick reference book would be increased if some of the matter were set in smaller type, leaving the very important data in large print.

The book is full of invaluable statistics, the compiling of which proves the merit of the work.

The latest edition is more condensed and up-to-date. The chapters on communicable diseases are particularly useful, clear and thorough.

In view of the trend of modern medicine more and more towards the institution and adoption of preventive measures every practitioner will find this book a useful addition to his collection.

NARCISSE THIBERGE, M. D.

Experimental Pharmacology as a Basis for Therapeutics: A Text-book for Students and Physicians. By Hans H. Meyer, M. D., and Dr. R. Gottlieb, M. D. 2d ed. in English. Translated by Velyien E. Henderson, from the 7th revised German edition. Philadelphia and Montreal. J. B. Lippincott Company. 1926.

The second English edition of this well-known German text-book makes it available to the English speaking medical world for the first time in some years as the first edition has long been out of print. In it the authors endeavor to explain logically the actions of remedies in health and in disease. The subject is approached from the psychology of each organ and its pathological conditions and an effort is made to show how its functions may be altered by the exhibition of certain remedial agents. The references are ample and will be useful to advanced students of pharmacology and physiology.

FRANCIS M. MUNSON, M. D.

Practical Surgery of the Joseph Price Hospital: By James William Kennedy, M. D., F. A. C. S. Philadelphia, F. A. Davis Co. 1926.

This is a most unusual volume both in style and content. It will be of particular interest to surgeons and gynecologists in this section of the country on account of the advocacy of a number of procedures that we are accustomed to regard as archaic—for example, through and through sutures of the abdominal wall, with silk worm gut, as opposed to their sutures, the use of non-absorbable suture material within the peritoneal cavity, and the performance of vaginal hysterectomy for extensive ulcerations of cervix.

It is not to be thought that the above paragraph summarizes the book. On the contrary, the

general standpoint is up to the most modern teachings. It is more concerned with technique than with physiology, and lays a good deal more emphasis on common sense than on blood chemistry. The mortality in the Joseph Price Hospital is one of the soundest arguments as to the practical nature of the surgeon who inspired this volume. The illustrations are ample and each point is driven home with emphasis and reiteration. The section on vaginal hysterectomy is excellent, the discussions of appendicitis and cholecystitis are of great interest, and the gynecological repair and laparotomy both bear the mark of strong individuality. Draining the gall-bladder by gauze packs, flushing the peritoneal cavity with quantities of saline solution, walling off the pelvis with a cofferdam of gauze which is left in place at the completion of the operation, abdominal approach of purulent accumulation in the cul-de-sac, are all practices that need a strong proponent.

It is a little embarrassing to discuss the soundness of these principles unless they have been seen in extenso. The book lacks figures, and if the statements are taken at their face value, much of the work done in surgery is wrong. This is a little difficult to believe, as meritorious technique has a way of diffusing itself throughout the surgical world. However, opposition breeds thought, if it is backed by sincerity, and the book can be recommended for its lucidity and the evident depth of conviction on the part of the author. Instead of "thousands of cases" with a low mortality, one would like to know how many thousands and the percentage of mortality. Other statements of interest are found to be mere statements without proof, but the book is likeable and might be added to advantage to any surgical library.

E. A. FICKLEN, M. D.

Outlines of Common Skin Diseases, Including Eruptive Fevers: By T. Caspar Gilchrist, M. D. Baltimore, The Williams and Wilkins Company. 1927.

The author has revised earlier editions, added a few pages of grouped photographs, modernized treatment and made it possible for the observing student or practitioner to diagnose the common skin diseases by the arrangement as to location and form of lesion. This is a very valuable book for use in making a quick, accurate diagnosis.

M. T. VAN STUDDIFORD, M. D.

Obesity: By Leonard Williams, M. D. London, Oxford University Press. 1926.

"The unlovely condition called corpulence, or obesity, has been divided into three stages, known respectively as the enviable, the comical, and the

pitiable. Such a classification is based upon a false estimate of values; for no case of obesity is enviable, most of them are in a sense comical, and all are pitiable." This opening paragraph of the book is indicative of the delightful and very readable form in which the subject matter is presented. The author writes with more than the usual charm of the English writer. Most assuredly American writers would profit much by a greater attention than they exercise to ease of presentation, which after all is style and form. An agreeable literary presentation cannot help but impress the individual reader. The present discussion of obesity is written with a full knowledge of the subject and the scientific aspects of this particular disorder. Valuable hints are given for the correction and amelioration of this discomforting disfigurement of the unfortunate human subject to it. The book is made still more attractive by the illustrations of G. L. Stampa, many of them from London *Punch*.

J. H. MUSSER, M. D.

Collected Papers by the Staff of the Henry Ford Hospital: First Series, 1915-25. New York City, Paul B. Hoeber, Inc. 1926.

This is a very creditable presentation of the literary work emanating from a hospital, which, judging from the character of these papers, is evidently conducted on a well planned basis of scientific efficiency. Some of the articles show well elaborated and thoroughly carried out research work; others bring out new lines of treatment and, all in all, make an interesting volume in which even the most fastidious will find something of interest.

J. A. DANNA, M. D.

Emergency Surgery: the Military Surgery of the World War Adapted to Civil Life: By George De Tarnowsky, M. D., F. A. C. S., D. S. M. Philadelphia, Lea & Febiger. 1926.

This is a first edition of a book on emergency surgery by one who has had a large surgical experience and whose personality pervades the entire volume. There is a lot of unnecessary bacteriology and, judging by the number of typographical errors, it was probably hurried off the press. It is, however, well printed and contains a large number of illustrations and has the refreshing distinction of freedom from the old cuts which one sees in all the books on surgery. The author makes a rather successful attempt at adapting the military surgery of the World War to civil life. The book bristles with individuality and though one may not agree with all it contains, it is one which will grace the library of any actively busy surgeon.

J. A. DANNA, M. D.

Practical Materia Medica and Prescription Writing: By Oscar W. Bethea, M. D., Ph. G. F. C. S. 4th rev. ed. Philadelphia, F. A. Davis Co. 1926.

A compact and excellent work, setting forth briefly, but in sufficient detail the essential facts regarding drugs in common use. The second part contains, under heading of prescription writing, very helpful aids towards the proper combinations of said drugs and their compounding.

This work should be a very useful one, not only for the student, but also for the practitioner.

J. HOLMES SMITH, JR., M. D.

Pernicious Anaemia, Leucaemia and Aplastic Anaemia: By J. P. McGowan, M. A., M. D., B. Sc. New York, Paul B. Hoeber, Inc. 1927.

The present monograph is truly a description of one type of disease, despite the somewhat confusing title of the work. It deals almost entirely with the interesting blood disease of the fowl known as leukosis or, as it is more familiarly known in this country, as fowl leukemia.

As a result of three years of investigative work, McGowan is enabled to advance certain ideas and suppositions that certainly make interesting reading, but which seem to require further proof and substantiation than the author presents. Briefly, it is his contention that fowl leukosis represents a single pathological process of multiple etiology and that as a result of this multiple etiology changes are produced in the bone marrow. Alterations in the bone marrow naturally bring up the question of erythropoiesis and the chapter which follows the etiology of leukosis discusses the formation of the red cells and their development. Division of the stem cell takes place amitotically, so in order that the reader may appreciate the importance of amitosis in blood formation, the next division of the book deals with this particular phase of blood formation. Blood platelets are probably also formed from the blood stem cells rather than from megacaryocytes, or at least play an equally important role as to these large cells. It necessarily follows that there is then a discussion in the following chapter of the megacaryocyte and its probable function. The author returns now to his original thesis and begins to prove by his experimental work that fowl leukosis is a definite syndrome and the pathological changes are brought about by disorganization of the bone marrow. If now, one considers pernicious anemia and leukemia and contrasts these two conditions with leukosis, it will be found that they are analogous in many respects and because leukosis is produced by irritative stimulation and degeneration of the marrow, the author assumes that

fundamentally there is an identical method of production in human cases, suggesting also the possibility that in an idiopathic pernicious anemia the etiological agent is a previous general infection, in the majority of cases without knowledge of the patient, and at which time the bone marrow had been injured. In the next chapter it is shown that excessive hemolysis is the result of destruction of red cells by the reticulo-endothelial system, cells unsatisfactory for the human circulation as they are of an embryological type. Hemolysis, therefore, does not cause the disease, but is the result of the disease. In aplastic anemia it is the conclusion of the author that the elaboration of iron as a result of some hypothetic toxin is prevented by the injury to the liver cells with the additional added factor of the toxic action on the hemapoietic system. Aplastic anemia and pernicious anemia differ only in the rate of action of the toxic substance.

From this brief outline it may be seen that new ideas and concepts of the pathogenesis of some of the usual types of blood disorders have been advanced. It is hoped that in this review the stimulating character of the book will be indicated by the recounting of the material as presented chronologically.

J. H. MUSSER, M. D.

Histology of the More Important Endocrine Organs at Various Ages: By Eugenia R. A. Cooper, M. D. London, Oxford Univ. Press. 1925.

The aim of the writer to give the normal changes occurring in the more important human endocrine organs (hypophysis, suprarenal, thyroid, parathyroid and thymus) at different periods of life, is admirably accomplished in this little book. While the entire subject matter depicted is of undisputed importance to the histologist, it is evident that it is of equal importance to the pathologist in his interpretation of normal and abnormal findings at various ages. This comprehensive study of the organs, antenatally and postnatally, is also of great value to the clinician since structural changes described with advanced age are presumably correlated with the functional activities of these glands. Therefore, this very interesting work merits a most important place in the ultimate history of the endocrines.

E. DEES MATTINGLY, M. D.

The Treatment of the Acute Abdomen, Operative and Post-Operative: By Zachary Cope, B. A., M. D., M. S., Lond. F. R. C. S. Eng. London, Oxford University Press. 1926.

This volume of 232 pages contains a number of valuable points not only in diagnosis and treat-

ment, but in the details of surgical technique involved in dealing with abdominal emergencies. The illustrations are profuse, and no space is wasted in repetition. Some of the cuts in the opening pages, showing scalpels and dissecting forceps would be more appropriate in a catalogue of surgical instruments, but this is a minor objection which should not cloud the many merits of the publication.

The author has thought it advisable to include points which are so well known as to appear elementary as well as advice on the finer points of surgical judgment. In consequence the latter half of the book is of considerably more interest than the introductory pages.

E. A. FICKLEN, M. D.

The Specialties in General Practice: Compiled by Francis W. Palfrey, M. D. Philadelphia, Saunders Company. 1927.

It is a very excellent idea that has been put into practice by Palfrey in compiling a book in which the minimum essential knowledge of the specialties is collected under one cover. As Palfrey says in the preface, "the total of medical knowledge has become so large that it is beyond the capacity of any one man to have a complete command of the whole in all its branches." In order to supply this knowledge which necessarily the average physician in general practice should have, the authors who have contributed to the several sections have picked out the most important conditions occurring in their specialties and those which it is likely that the general practitioner will treat, and have written upon them from the viewpoint of clinical description, etiology and pathology, methods of recognition of the disease, and treatment and management. In this way, a fairly comprehensive group of facts are marshaled by men who are experts in the particular line and they can be referred to in a minimum amount of time. The reviewer does not feel qualified to comment more than in a general way upon the presentations. To review the book accurately would require the services of a pathologist, neurologist, gynecologist and eight other specialists. However, in looking over the material as it is presented, it would seem that the work is sane, sensible and satisfying.

J. H. MUSSER, M. D.

A Primer for Diabetic Patients: Russell M. Wilder, M. D. 3d ed., reset. Philadelphia, W. B. Saunders Co. 1927.

This book in 6 years has required 10 reprints counting all the resets. It is a very clever, handy, short and clear booklet which can be used by both patient and doctor with advantage.

Simple tests, rapid and easy method of calculating the diet, a practical hygiene are outlined in the first chapters; the second part of the book contains useful recipes and menus and insulin in conservative doses recommended.

The usual tables for calories and other matters of interest mostly to the attending doctor will also be found.

It requires a deep study of the subject and a very wide experience in handling diabetics to produce a book of this character.

NARCISSE F. THIBERGE, M. D.

The Pathology and Treatment of Diabetes Mellitus: By George Graham, M. A., M. D., F. R. C. P. London, Oxford University Press. 1926.

The second edition of this little book is interesting to all engaged in the special field. The subject is covered in a thorough fashion, both from a practical and theoretical standpoint. The recommendations made by the author are sound.

I. I. LEMANN, M. D.

Preventive Medicine and Hygiene: By Milton J. Rosenau and others. 5th ed. New York and London, D. Appleton & Co. 1927.

Rosenau's fifth edition of his well known text book on Preventive Medicine and Hygiene is everything and more than the preceding one was.

As is stated in the preface and confirmed by the text a large number of topics have been rewritten and one on Mental Hygiene has been added. As is to be expected so vast a subject as hygiene cannot be adequately presented by one man, and Rosenau has enlisted the services of a large number of contributors who have handled the new material at their disposal in a masterly manner.

This volume is far too large to review *in extenso*. It is a work of reference, and even a cursory examination of the number of subjects touched upon is enough to convince one that the present edition is bound to render the same service to medical men engaged in public health work as did the preceding ones.

LA. STATE BOARD OF HEALTH.

Health Supervision and Medical Inspection of Schools: By Thomas D. Wood, A. M., M. D., and Hugh Grant Rowell, A. B., M. D. Philadelphia, W. B. Saunders Co. 1927.

The recently published work of Wood and Rowell on "Health Supervision and Medical In-

spection in Schools" is a marvelous accumulation of material on the subject from all parts of the United States. The exceedingly numerous forms for recording special tests on school children are of great value to those whose duty it is to organize and carry on school inspection work. As a volume for reference we do not know of one which approaches it in completeness.

LA. STATE BOARD OF HEALTH.

The Chemical and Physiological Properties of the Internal Secretions: E. C. Dodds, Ph. D., B. Sc., M. B., B. S., and F. Dickens, M. A., Ph. D. London, Oxford Press. 1925.

This book will appeal chiefly to the research workers in physiology and physiological chemistry. The object of the book as stated by the authors in their preface, being to "provide workable descriptions for the preparation and standardization of the products of the internal secretions." The products described are those of the pancreas, pituitary body, thyroid, ovaries and suprarenals. In addition to these, secretin, spermine and the parathyroids are briefly considered. Fortunately, in an appendix to chapter VI, the important work of Collip and his co-workers on the parathyroid hormone has been incorporated. Physicians in general will be mainly interested in the excellent summaries of the physiological actions of the various secretions. These summaries are concise and brief. Where the actions are controversial or insufficiently confirmed it is frankly so stated by the authors. An extensive and careful bibliography is found at the end of each subject. This book should be of considerable value to research workers and endocrinologists and should be an addition to any reference library.

RANDOLPH LYONS, M. D.

Pneumoconiosis: By Henry K. Pancoast, M. D., and Eugene P. Pendergrass, M. D.

This book will prove a very desirable addition to the libraries of all roentgenologists and of physicians who are interested in this subject. The material, which consists in part of twenty-three illustrations of roentgen plates of many types of pneumoconiosis, admirably arranged, and beautifully reproduced. The text contain dissertations upon various kinds of dusts, preventive measures, a clear explanation of the pathology and a comprehensive study of the roentgen ray plates. Of particular interest is the chapter on coincident tuberculosis, explaining why the two conditions are so frequently associated, and methods of differentiating one from the other.

This book is dedicated to Russell D. Carman, "a valued friend, an esteemed contemporary and a roentgenologist of highest ideals."

LEON J. MENVILLE, M. D.

The Normal Child and How to Keep it Normal in Mind and Morals: By B. Sachs, M. D. New York, Paul Hoeber. 1926.

This small volume is intended for teachers, parents and physicians, taking up the training, management and psychology of the infant, the pre-school child, the school child and the adolescent. About half of the book is devoted to the evils of psychoanalysis. Throughout the first part of the book there is constant reference to the dangers of psychoanalysis.

Like most books of this kind it is lacking in a detailed and concise discussion of the subject, the generalized flights of lengthy sentences failing to hold the reader's interest.

In the reviewer's opinion the book fails to accomplish what the title suggests and it is not recommended for general use.

L. VON MEYSENBURG, M. D.

Manual of Psychiatry: By Paul E. Bowers, M. S., M. D. Philadelphia, W. B. Saunders Co. 1924.

In the opinion of the reviewer, the author limits the value of his work by stressing brevity, except in that part devoted to the functional mental disorders, which are very comprehensively covered.

FREDERICK L. FENNO, M. D.

PUBLICATIONS RECEIVED.

Oxford University Press: "Chronic Rheumatic Diseases," by F. G. Thomson, M. A., M. D. and R. G. Gordon, M. D. "The Elements of General Zoology," by William J. Dakin.

Paul B. Hoeber, Inc., New York: "The Fifth Avenue Hospital Clinics."

Lea & Febiger, Philadelphia: "A Manual of Materia Medica," by E. Quin Thornton, M. D.

The MacMillan Company, New York: "The Beloved Physician, Sir James MacKenzie," a biography by R. MacNair Wilson.

Medical Life Press, New York: "History of Cardiology," by Louis Faugeres Bishop, M. A., M. D., Sc. D., F. A. C. P.

Miscellaneous: Proceedings of the 19th and 20th Conferences of the American Association of Medical Milk Commissions.

REPRINTS.

"Pigmentation of Roots of Cilia," by Francis Burton Blackmar, M. D., "The Ineffectiveness of Medical Practice Acts," by William C. Woodward, M. D. "The Debatable Fields of Public Health Activity," by E. G. Williams, M. D. "Public Health Problems Needing Research," by Ennion G. Williams, M. D.

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THE DIGNITY OF MEDICINE.*

HUBERT A. ROYSTER, M. D.

RALEIGH, N. C.

If I may bring to my hearers the genuine flavor of true medical science; if I can interpret for them its real meaning and portray its pure spirit, I shall be of all men most happy. For medicine is a dignified calling—dignified in the original sense, that of being worthy. It emerges the most exalted of sciences, as well as the most beneficent of arts, since its sole purpose is the relief of human suffering and the saving of human lives. Science, which is organized knowledge, is correlative, mutual, allied in all its branches. The science of medicine embraces all other forms of science, takes over what it will from them, applies it to its own humanitarian aim; it is universal, altruistic, sacrificial.

Not without struggle has medicine reached its present proud position. The combat has been largely ignorance, both within and without its own ranks. The art of medicine—the practical work of treating illness—existed before the dawn of history and even in 400 B. C. flourished as a learned profession under the leadership of Hippocrates, the "Father of Medicine." The science of medicine began with Louis Pasteur, the great Frenchman, who was not a physician, but a chemist. His discovery of the microbial origin of disease,

brought eternal glory to his name and he remains the sublimest benefactor of all mankind. All through the ages the faithful men of medicine have stood for education, culture, refinement. The very title by which they are commonly designated—doctor—means teacher; and the physician who excels is performing the task of a teacher every day and every hour of his life.

How, then, account for the presence and persistence of quacks, impostors, irregulars, cultists and the like? Are our high ideals being flaunted? Have they been ground beneath our feet? It is a common experience that no matter how low the standards of any establishment may be, there always will be some endeavoring to enter who are not qualified. Once the bars are let down it is difficult to lift them again. The various "schools" and cults in medicine represent those who could not hope to reach the mark of the highest calling and therefore seek on a lower plane to create a separate system founded customarily upon one lone hypothesis; previously reviewed, perhaps, by medical scientists and either given up in favor of more progressive thought or still included as a part but not the whole of the truth. All the "pathies" have been organized under the guise of half-truths—or more properly quarter,—or sixteenth-truths,—as if they constituted within themselves the elements of a basic science, by attempting to subject the diagnosis and cure of all diseases to one narrow theory. All-embracing science finds no resting place with them.

*Address of Annual Orator, delivered before Louisiana State Medical Society, New Orleans, April 26, 1927.

The same has been true of other institutions, notably the Church. Religious denominations by scores have sprung up, and are still springing up, all over the world, each one being formed on a different interpretation of some one portion of revealed truth. Cutler expresses the view that "there are three parasites which have clung to each successive stage of civilization—quackery, drunkenness and prostitution. These parasites have maintained vigor, persistence and superiority over all the efforts of church, state and society; quackery, chiefly because of human gullibility." Quackery may not be placed in the category of crime, but its effects are sometimes worse than criminal, particularly in the reflex result upon the victim. Peculiar to *homo sapiens* is an innate feeling that he is versed in profound knowledge of that most delicately balanced mechanism, his own body, and yet a willingness to accept advice from the most ignorant of sources, especially if the advice is pleasing, agrees with his own ideas and is accompanied with claims of certain cure. Not all gullible people are of the lower order, uneducated or illiterate. Many of so-called culture are most easily influenced. It is charitable to say that their culture may be of the spurious type—a sort of culturine. And it might be through no fault of theirs; probably they were vaccinated for culture, but it failed to "take." At any rate let us not look for the existence of charlatans to any rational thought or consistent cause, but rather to a natural tendency of the human animal to go the easiest way, to be flattered by artful assurance. Those who know the least often promise the most. Real medical science, like real religion, will proceed to the end of time, vaunting not itself, but persuading man 'to know and reverence the truth and to believe that only so far as he knows and loves it, can he live worthily on earth, and vindicate the dignity of his spirit."

A queer phase of the lay mind toward the profession is the confident conception of

medicine which the average man thinks he possesses and his constant readiness to give counsel to those about him. Years ago Beddoes observed: "There are three things which almost every person gives himself credit for understanding, whether he has taken any pains to make himself master of them or not. These are: 1. The art of mending a dull fire; 2. Politics; 3. Physic." It will be granted that each one of us knows he can fix a fire better than any other, and that political experts, replete with wise predictions, stand on every corner. It is equally exact that non-professional medical sages abound. Who has not seen the man (or woman) offering a sure remedy for rheumatism, suggesting a diet for reducing, or advising what operation should be done? And in each instance, of course, "your case is just like mine." Not only that, but our diagnoses are continually made for us both by individuals and the public—at times a very interesting if not helpful procedure. Moreover, prospective patients are often told what not to do, according to the counsellor's experience, and thereby a loop-hole of neglect is furnished. No other concern in life is so beset by advisory suggestions as that of medical practice. It seems monstrous that the average citizen should pretend to so much familiarity with the most abstruse of all sciences, whose workings are fraught with much possible danger to health and life, when he rarely essays to great conversance with less private and more simple affairs. Seldom does the outsider tell the grocer how to buy or sell his provisions; the minister what to believe or to preach about; the lawyer how to defend his client or what sort of a speech to make to the jury. It is quite true that each community is overflowing with would-be directors of all professions and all trades, and no individual or set of individuals is exempt from their strictures. But no other vocation is so intimate and personal as that of medicine and none so intricate or so perplexing in its applications. Mr. Kipling has expressed this very well: "They

(doctors) will always be exposed to the contempt of the gifted amateur, the gentleman who knows by intuition everything it has taken them years to learn. They always will be exposed to the attacks of those persons who consider their own undisciplined emotions more important than the world's."

The practicing physician has little or no social tranquillity. In any gathering he is rarely allowed to be himself, but perforce is fused with his profession and plied with all sorts of declarations and interrogations pertaining to his work. Hardly any doctor has escaped such questions as these: "How is the health of the city?" "Many sick people now?" "Do you think I ought to be vaccinated?" "What's the cause of appendicitis, anyway?" "Are we going to have another 'flu' epidemic?" The presumption seems to hold that the doctor of all men longs to descant upon his occupation and his patients, when usually the reverse is true. To our shame, however, it is only too evident that some physicians glory in "talking shop" and in expatiating volubly upon their "cases." The laity, unfortunately, may take their cue from such men, but they do not represent the high type. It is one thing to instruct, to enlighten individuals or collections of citizens, in private or in public, upon questions affecting their well-being and that of the community as a whole; it is quite another thing to answer untenable questions, to give unjustifiable information concerning personal matters or to attempt explanations of things impossible or irrelevant. Further, there is a natural interest which excites inquiry about those near and dear; and there is a spurious, sometimes forced, inquisitiveness, taking in wide territory, which is born of human wonder.

Cynical as it may sound, it is no exaggeration to say that much of so-called sympathy is merely curiosity. The testimony of those who know will be convincing. Almost any hospital officer and numbers of physicians can tell of countless requests

from utter strangers for exact and familiar details respecting the illness or injury, not always of "certain people of importance," but frequently of persons unknown both to the inquirer and also to most of those about him. Nearly as common as these promiscuous petitions are the instance of anger and irritation on the part of those who are told that no information can be given them or who obtain only general expressions without the much desired, but properly withheld, particulars. It is a question, of course, how far those in charge of the sick may or may not go; on the one hand in preserving the privacy of the patient and his home, and on the other in giving the public the facts which should be known. In many instances the physician's judgment is taxed to the utmost by conflicting responsibilities. Without the shadow of hesitation his first consideration is the patient and the family. The man in the street and the woman in society often brook no opposition to their desires and cannot understand the close-mouthed medical man or the institutional official who will "tell you nothing." The curiosity complex worketh within them a greater amount of attention and a far more exceeding weight of security than would be exhibited by legitimate human sympathy. After all, the sympathy that serves is practical sympathy,—relief for the sufferer, lightening of his load, cure of his complaint. Not all the visitations, not all the proffered counsel, not all the well meant commiseration can assuage like the helpful hand and the knowing heart. In a group of men at a club a physician was asked by a very prominent member of the community what was the matter with Mr. So-and-So's wife who had recently been operated on. The questioner, who barely knew the patient and was no particular friend or connection of her husband, was virtually insulted when reminded that it was none of his business; but justly felt rebuked when the affair was brought home to him by asking how he would feel if the same question were put by another in re-

gard to his own wife. Truly there are conditions that cannot with propriety be revealed to the glaring gaze of the public, and medical confidence is one of them.

Let no one assume from this that medicine stands for concealment. In private matters the profession respects the trust reposed in it by patients and the public. Numberless are the confidences locked up in the bosoms of physicians; and, in behalf of our social order, Heaven is to be thanked they *are* locked up. But there should be nothing of the mystic about medicine. One of the very strongest stipulations in the Hippocratic oath is that no secrecy should pertain to the practice of the healing art, but that such knowledge should be passed on to others. These others, however, are to be bound also by the oaths in order that "the benefit of the patient" may always be kept inviolate. Whatever of incantations, of ritualism, of charms and amulets that remain from the darkest periods are due to superstition, credulity and untrained thinking. But the doctor, above all people, must keep an open mind. He must not erect an intolerant barrier that may keep out the light. As better said by Strachey, "though the doors must be shut against superstition, it must always stand open to discovery, and even if a little superstition temporarily creeps in through the aperture, that must never be made an excuse for creating the debilitating atmosphere of the closed room." The distinct trend of medical thought is toward the open spaces. The earnest intention of the progressive physician of the present day is to contribute his share of knowledge toward the prevention and alleviation of disease, to inform the public of what is to be done and how to do it, to explain and to simplify methods, so that they may reach the understanding of the people. Collectively medical men have combined forces in boards of health, hygienic associations, local and national societies to stamp out the very conditions from which they make a living, considering themselves rather apostles of

prevention than ambassadors of sickness. Just as important as public health is individual health, and here the doctor finds his field as teacher. For, many of these important questions cannot be settled in the herd; they must be brought down to the particular person. To instruct him, to show him by precept and example the way to health; to cure him of his ailment in the simplest, straightest fashion; to tell him the truth as the truth is known—this is the clear purpose of the present day physician. He would welcome those who may grant him such privilege.

Two further features call for consideration—the layman who essays to be his own doctor and the physician who regards himself as his own patient. There is an old proverb—anonymous and variously quoted—which runs: "Every man at forty is a fool or his own physician." Like other aphorisms this one may mean much or little, according to its interpretation. The evident purpose of this proverb is to say that at the age of forty a man should have learned to take care of himself or else he is relegated to that class which is deficient in intelligence. Preventive medicine, the highest aim of the physician, should be comprehended by each man for himself during the twenty years after the age of maturity. Not to do this is to dub himself a fool. Testimony is not wanting to show that at the age of forty most men have attained the zenith of their individual power, both mental and physical. Scores of them do greater things after this period and many reach their full development earlier. Nevertheless, forty is the time at which most of them take earnest thought of what has gone before and arrange to press forward to whatever may be ahead. Some are wont to refer to the post-forty days as the "shady side." This, and perhaps the whole affair, depends upon the individual. Man has a truer measure of his own life as he rounds out the fortieth year and, at least, learns to know what he does not know. Young, in "Night

Thoughts," tells us: "At thirty man suspects himself a fool; knows it at forty and reforms his plan." This realization ought to be swift and sure, for we are warned by the same author ("Love of Fame") to

"Be wise with speed;

A fool at forty is a fool indeed."

At all ages it is meet for every one to understand that the way to health is by right living. The guide for the journey may be found in another epigram: "Know thyself." Nature makes a contract with each individual born on the earth. She says to one: You can do certain things without harm, without paying a big price. She says to another: You must pay me well for the privilege of living, you may not do certain things with impunity. Read the terms of your contract. The bonds mature at forty.

It is hardly necessary to say that knowledge of one's self and of the physical laws of the universe is not the only safeguard, since physicians themselves are sometimes notable offenders. It is, perhaps, unfair to hurl back at them to practice what they preach, to destroy the effect of good advice by criticism of the adviser. Compliance with the spirit of our proverb is a matter of the will rather than the intellect, of common sense rather than technical knowledge. Under this particular count, then, we need not press the ancient accusation that a doctor who is his own physician has a fool for a patient.

Just as ardently as I would have the laity conceive of the honor and dignity of our profession, so I would enjoin my colleagues to remember their obligations and to be mindful of their allegiance. No career is so high in its ideals and few require such preliminary training as that of medicine. The time, the labor, the money spent in its study surpasses that devoted to any other calling. And this is well; for the physician, if he be true to his traditional faith, and ready for the coming time, must needs be an educated

man in the real sense; one who can observe, who can think, as well as one who can express himself, who can perform. My stand is with those who plead for the preservation of the humanities, that they may take their place along with the sciences in preparation for the medical career. For the physician is the greatest of all humanists. His absorbing interest is in human nature, in human beings, in human life. Whatever contributes to these ends are needful for his consummation. The arts, languages, philosophy bring their recompense to those who would lead, who would understand, who would adorn their lives. The day of the accomplished physician is returning. We are beginning to live down the situation which will permit an astute layman to remark, as one did recently of a very distinguished physician, that "outside of his specialty he is an eight-year old child."

But let there be on this account no abatement of science. Rather give us more and more, for that way lies truth and progress. It cannot be insisted too strongly that medicine, in principle and practice, is a forward-looking affair. Science bids us be discontented unless we endeavor to learn something today that we knew not yesterday and, further, to discard the old if the new is better. This is the slogan of modern medicine. We have come through the time when Bacon spoke of medicine as "a science which hath been more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression." The advances since that day have been the part of natural science. When medicine appropriated from other scientific fields whatever might add to its own enlightenment, from that moment it became the most progressive of the so-called learned professions. Medical science has advanced so rapidly as to be of necessity almost entirely rewritten every twenty years. As pointed out by G. K. Dickinson: "Should Henry Ward Beecher come back to

his pulpit, he would find his preachment just as understandable and effective as in his day. Should Chief Justice Marshall return to his bench, he would find the law unchanged and his decisions acceptable. But should the most competent physician or surgeon of fifty years ago return, he would be at a loss, for the physician would be obliged to study medicine over again, and the surgeon would not be able to do the ordinary work required in the operating room." Thus, progress is justified of its believers. When science is joined to the humanities, when the ancient and honorable partnership of knowledge and culture shall be revived, then will appear the ideal man of medicine.

There is dire need in this time for the scientific mind. The educated physician should be sincerely grateful for the broad horizon which his training has conferred upon him. To what useful purposes his talents may be put, if only he will strive in private and in public to uphold the standards of his profession and to see that the people are enlightened concerning its aims and its ideals! A crusade for mutual understanding between physicians and laymen is most desirable. Whether this be carried on individually or collectively is a matter of taste and judgment; both methods are commendable. What is chiefly to be wished for is the instillation of the essence of science into the consciences of our public men, our men of affairs. To bring this about it is not necessary for physicians to engage in politics, but for statesmen to become imbued with the scientific spirit. Without it there is no actual appreciation of human problems. This is a legitimate opportunity for the education of the public, and especially of those who represent the people. Those in the profession who would prostitute their principles for personal or political exploitation, who see no reward in the promotion of science for its own sake, are not honorable ornaments of their profession nor worthy fellows of the guild.

Much discussion is heard nowadays in medical circles concerning campaigns of publicity and programs for advertising. Different ideas have been suggested, various means proposed and every known channel of notification offered to carry medical information to the people. There can be no warranted objection to any desire to educate the public concerning their health, to take to them knowledge about disease and to instruct them in the ways of getting well and keeping well. Beyond these limits it will require much righteous discrimination to determine how far to go; for with a smattering of learning and an undeveloped judgment the public may be hurt rather than helped. What appeals to my earnest conviction is teaching people in the clearest manner possible the fundamentals underlying health and disease, methods of preventing sickness, and the necessity of periodic physical examinations. Other problems will take care of themselves.

What would not appeal to me is a scheme of advertising which would include offering wares to the public, of having anything for sale, of holding out infallible cures of disease, of making promises or of effecting guarantees. The word advertise carries with it, whether justifiably or not, an implication of "puffing" one's self, of drawing attention to professed superiority, of seeking to proclaim to the public what should be known in other ways. I am aware that there are proper means for ability to be recognized—chiefly by what can be done, not by what can be said. When Shakespeare makes the King say, "we are advertised by our loving friends," he indicated a decent practice, but undoubtedly used the expression in a different sense from its present day significance. He was simply saying that we are "turned to" by our loving friends—a voluntary action and much more satisfying. By no twist of circumstances am I willing that my profession should be placed on a level with a commercial trade; I refuse to have it degraded to

the station of a "go-getter" or transformed into a boosting bureau; I will not be a party to any plan of cheapening the relation of patient and physician; I cannot subscribe to any proposal of aggrandizement, of boasting, of egoistic promises. Our creed should be: the widest publicity possible for disseminating information to the people for their instruction and for their well-being, but not for one instant the promulgation of self-seeking notoriety or the announcement of individual solicitation for business.

The high regard which many of the world's eminent men have held for the profession of medicine should not give us the feeling of the braggart or the sense of smug satisfaction. Cure for these complaints may be found in reviewing an equal, if not a greater, number of unfavorable opinions. Rather ought we to be thankful for those who perceive, who value the things we most revere and are willing and able to put them into words. Rarely have I seen so vivid an appreciation of the medical life as in the following tribute by John St. Loe Strachey: "I say, without the slightest fear that I may be overstating my case, that there is no profession which is more exposed to the temptation to forget honor, humanity and kindness than the medical profession, and none in which the exploitation of human suffering is easier. *Yet there is none in which the temptation is so triumphantly withstood.* Let this be remembered by the public when they feel inclined to sneer at medical etiquette, and to speak of it as if it were a code for maintaining selfishness and enrichment. Medical etiquette is the salvation of the patient. It is the one thing which stands between him and the dangers of exploitation. It is what make him and his suffering hold the dominant part in the dread dramas of pathology."

A critique by Heywood Broun, the columnist, is not without its discernment:

"In the long run the heretics or reformers, call them what you will, return to the

hospitable arms of mother medicine. Here's to the doctors; God bless them, almost every one. Dumb? Oh, yes, very often. Bigoted? Well, I'd not contend that they were free of bigotry. Reactionary? No, that I'll not admit. Sometimes the vast majority of organized practitioners seem set and sealed against well demonstrated innovation, but in the long run truth does prevail. No medically protestant group has long endured. * * * Among all the orthodoxies of the world, medicine alone has kept its apostolic line unbroken by permanent and serious secession. Much has been done by men who were outside the fold. Medical martyrs are numerous. The regulars have persecuted and slain their scores of saints in every age. But in the course of time they have never failed to canonize them. Medical justice may be slow-footed, but it grinds finer than the mills of any other profession."

All are familiar with this generous acknowledgement from Robert Louis Stevenson:

"There are men and classes of men that stand above the common herd! * * * the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

My object has been to present the profession of medicine as a dignified vocation, worthy of worship by its devotees, deserving the respect of those who need its

ministrations. I have not meant to confuse dignity with solemnity; for this profession of ours is a joyous, buoyant, hopeful occupation—entrancing in its study, alluring in the surprises of its practice. It demands courage and patience and endurance and an abundant amount of enthusiasm, but it furnishes a continuous occasion for all manner of things to know, people to help, lives to save. There are keen disappointments—yes; and bitter regrets and painful misunderstandings. And yet these are somehow swallowed upon in contemplation of the lofty aims and sacred aspirations engendered in all who are touched by the beneficent influence of the medical spirit. To perform some part in holding fast to our ideals, to aid in restoring the old-time confidence, respect, and faith between the profession and the public, to stimulate loyalty to all we hold dear, is enough to mitigate a life time of worry. Here at once is our challenge and our goal, a prediction by the French philosopher, Descartes, in the seventeenth century: "If ever the human race is raised to its highest practical level, intellectually, morally and physically, the science of medicine will perform that service."

SOME PHASES OF CRIMINAL ABORTION.*

E. A. FICKLEN, M. D.,

NEW ORLEANS.

The purpose of this paper is not to attempt to offer any solution to the problem of criminal abortion, but rather to comment on some of its phases from an academic standpoint. The total abolition of the practice is as little to be hoped for as the absolute suppression of homicide. Laws and discussions directed against the manifestations of the basic human passions are mandatory rather than punitive in action.

The writer wishes it to be understood

that he is not advocating birth control, and that the brief discussion of that doctrine is unavoidable. The war between moral theology and expediency is destined to continue for many years to come, with the final decision in the hands of the individual. This essay concedes the futility of further argument.

Abortion is defined as the expulsion of the product of conception before twenty-six weeks gestation or viability. Criminal abortion is the bringing about, for an improper purpose, of the expulsion of the ovum before it is viable. The legal definition emphasizes the fact that the intent constitutes the essential element of the offense and is held to be equally guilty with the actual accomplishment. The ancient common law writers made no mention of abortion, though there are numerous references to it—both favorable and unfavorable—in the non-legal literature before the Christian era. "The question of criminal abortion," says Lecky, "has been considerably affected by physiological speculation as to the time when the fetus acquires the nature and therefore the rights of a separate individual—the general opinion among the ancient was that it was but a part of the mother and that she had the same right to destroy it as to cauterize a tumor upon her body. Plato and Aristotle both admitted the practice. The Roman law contained no enactment against abortion until the time of Ulpian. The Stoics thought that the infant received its soul when respiration began. The Justinian code fixed animation at forty days after conception. * * Aristotle even went so far as to advocate the enforcement of abortion by law when the population had exceeded certain assigned limits. * * * The Christian writers from the beginning denounced the practice not as being simply inhuman, but as being murder. Abortion was placed in the same category as infanticide and the stern sentence meted out to the guilty person impressed on Christians more than mere exhortation a sense of the enormity

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of the crime. By the council of Ancyra the guilty mother was excluded from sacrament until the very hour of death. This sentence was reduced * * * but the offense still ranked amongst the gravest in the legislation of the church. The emphasis placed on the crime was due to the firm conviction that abortion not only destroyed a life, but that as baptism was seldom performed an immortal soul was damned. It is probably to a considerable degree this doctrine to which we owe in the first instance the sense of the value and sanctity of infant life which so broadly distinguishes Christian from Pagan societies and is now so thoroughly incorporated in our moral feeling as to be independent of all doctrinal changes."

THE LOUISIANA LAW.

Section 807, Revised Statutes of Louisiana reads, as follows: "Whoever shall feloniously administer or cause to be administered any drug, potion or any other thing to any woman for the purpose of procuring a premature delivery, and whoever shall administer or cause to be administered to any woman pregnant with child any drug, potion or any other thing for the purpose of procuring abortion or a premature delivery, or whoever by any means whatsoever shall feloniously procure abortion or premature delivery shall be imprisoned at hard labor for not less than one nor more than ten years."

This statute differs in no essential particular from legislation on the same subject in other states and in other civilized countries. A few comments based upon court decisions will elucidate it.

1. Proof that the woman is pregnant is necessary only when she is charged with the offense.

2. Murder, as distinguished from abortion, is a felonious killing of a reasonable creature in being. If the child is born alive and dies by reason of injuries inflicted before birth, it may be murder. If, in the

course of a felonious act, a person causes the death of the mother, that is murder.

3. A person having control over a pregnant woman who induces her to take violent exercise with the intent to produce abortion has been held guilty.

4. The drug need not be a poison in the general acceptance of the term, but if it produces abortion, it is held to be noxious. It has been decided that the quantity prescribed may be admittedly insufficient to cause abortion, yet the intent constitutes guilt.

5. The act of administering a drug consists not simply in furnishing or prescribing it but also in directing or causing it to be taken, but neither a delivery of the drug by the hand of the one alleged to have administered it, nor the taking of the medicine in the presence of the defendant seems to be necessary for proof of guilt.

6. Voluntarily taking by a woman of a drug furnished by another is a fact tending to show the drug was administered by such other.

7. In general, advising a woman to take a drug with intent to procure abortion may, under the provision of certain statutes, constitute a criminal offense. It is not necessary, it seems, to the consummation of the offense that the woman should actually take the drug.

The above is a greatly condensed synopsis of various opinions and decisions. It is enough for the guidance of every physician and to go beyond it would simply entail the narration of a mass of technicalities.

The enforcement of the law is a responsibility of the district attorney, and the cases are brought to his attention through either the medium of the coroner's office or through the Louisiana State Board of Medical Examiners. The work of this board has exerted a very powerful influence on the standards of medical practice in the state, but its activities are little known and

less appreciated. It may suspend the licenses of either physicians and midwives at its discretion, but such licenses may not be revoked without due process of law. It may also refuse to renew licenses. If a license is suspended or refused re-issuance, it may be recovered only after legal process. The Amended Medical Law of Louisiana went into effect in 1913, and the following is a brief synopsis of the work of the Board in curbing abortionists since that time:

The certificates of nine mid-wives were suspended or not renewed for periods ranging from one year in two instances to five years in one instance. Four of these cases were decided on evidence obtained after investigation by the board and five from evidence submitted by patients or doctors.

Eighteen additional cases in which mid-wives were accused were acted upon. In eleven sufficient evidence to obtain conviction could not be procured. Two cases were taken to the criminal court but both were dismissed. In one case the dismissal was due to serious illness of the mid-wife. In one case the accused left the state. About twenty mid-wives have been called to the office and warned. The board has employed its own investigators, or those furnished by private detective agencies, the latter policy finding more favor at present.

Two persons engaged in the practice of mid-wifery, but not so licensed, were investigated by the board.

One physician's certificate was suspended and not renewed. Seven physicians were investigated by the board, one affidavit was filed and dismissed. In three cases an affidavit was refused by the patient and in three sufficient evidence could not be obtained. One case is now pending. One case was prosecuted but no conviction was obtained.

The results of the law cannot be measured by the number of convictions because the statute was designed primarily not to

punish the offender but to prevent the offense. The State Board is sincere and active and its attitude has been a pronounced deterrent to malefactors. The veiled advertisements of abortionists have diminished greatly in number since it was learned that such advertisements drew the unwelcome attention of the authorities. Investigators from the board, seeking to obtain evidence, have been refused any treatment on the ground of fear of the law. In many instances there was a moral certainty of the guilt of the accused, but various obstacles account for the lack of convictions. It must be remembered that a large percentage of the community is in sympathy with the abortionists, and that drastic changes in criminal law with the requirements for evidence very much reduced would be necessary before we could expect more convictions. The pronouncement "Innocent until proved guilty," is sometimes a source of irritation to the non-legal mind.

The next phase of the subject involves a sharp conflict of opinion in the minds of various observers. It concerns the responsibility of the physician in reporting cases of abortion. The following is the legal view of privileged communications: "A physician may not testify as to the facts learned while he attended the patient in his professional capacity. He may testify as to facts learned before or after." A belief on the part of the patient, acted upon by him, that the visit of the physician is purely professional, precludes disclosure. The privilege extends only to matters which are in their nature confidential and does not prevent a physician from testifying as to matters, the disclosure of which involves no breach of professional confidence." Professional communications are not privileged if made in furtherance of a criminal purpose. This epitomizes testimony in court and the Hippocratic oath enjoins under all circumstances a respect for confidences. It is interesting, however, to realize that there are opposing argu-

ments. An essay written by Lord Birkenhead, Lord High Chancellor of Great Britain, quotes a case of an English doctor who was proven to have performed the operation for criminal abortion over four hundred times. He says that the medical men must have been aware of the facts and continues: "One becomes impatient of a claim set up by a medical practitioner that he is entitled under a plea of privilege to neglect the obvious duty of a citizen and to abstain from giving to the proper authority information that would have saved many a life and put an end to a social pest. The plea of a doctor that in respecting his clients' confidence, he is obeying his professional etiquette, is frivolous."

Mr. Justice Hawkins gives another viewpoint, and one far more consistent with the general attitude of our profession: "I doubt very much whether a doctor called in to assist a woman, not in procuring an abortion, for that in itself is a crime, but for the purpose of attending her and giving medical advice would be justified in reporting the facts to the public prosecutor. Such action would be monstrous cruelty."

In all fairness to our profession, it may be stated that we are usually much in the dark as to what constitutes sufficient evidence. Even when we are certain that a known individual has procured an abortion in a particular case, we realize that an accusation not fully supported is more apt to be looked upon as slanderous and malicious than as an effort to help the community. That the authorities are not informed more frequently is due to another very familiar factor, the difficulty in obtaining the consent of the patient to the signing of an affidavit and to disclosure. The advisability of reporting abortions has caused so much agitation in Great Britain that the Royal College of Physicians finally adopted the following resolutions:

1. That a moral obligation lies upon every medical practitioner to respect the confidence of his patient, and that without her consent, he is not justified in disclos-

ing information obtained in the course of a professional attendance on her.

2. That every medical practitioner who is convinced that criminal abortion has been practiced on his patient should urge her, especially when she is likely to die, to make a statement which may be taken as evidence against the person who has performed the operation, provided always that the chances of recovery are not thereby prejudiced.

3. That in the event of her refusal to make such a statement, he is under no legal obligation, so the College is advised, to take further action, but he should continue to attend the patient to the best of his ability.

4. That before taking action that may lead to legal proceedings, a medical practitioner will be wise to obtain the best medical and legal advice available, both to insure that the patient's statement may have value as legal evidence and to safeguard his own interests, since in the present state of the law, there is no certainty that he will be protected against subsequent litigation.

5. That if the patient should die, he should refuse to give a certificate of the cause of death and should communicate with the coroner.

The writer is not aware of any similar set of resolutions for the guidance of the medical profession of the United States. The moderation of expression and the conservation of the above might well be taken as a model.

It was thought that the viewpoint of physicians engaged in active practice would be of the utmost value in arriving at certain conclusions. Accordingly, a questionnaire was sent to one hundred and twenty-five (125) doctors thought to be interested in obstetrics. Forty-six (46) replies were received. Five (5) questions were asked. These are given below with a synopsis of the answers:

1. What percentage of abortions is induced? Thirty-two (32) replies were received. The estimates ranged from fifty to one hundred per cent with an average estimate of 77.4 per cent.

2. My personal experience has been that mid-wives are the principal offenders and next to them the patients. Does this correspond to your experience? There were thirty-nine (39) assents. One physician stated that it was probably correct. One blamed mid-wives and doctors equally, another patients and mid-wives equally.

3. Do you believe that any change in the present laws is necessary or advisable? To this fifteen (15) replied "yes" and twelve (12) "no". The remainder amplified in a manner that showed that considerable thought had been given to the matter. Many stated that laws cannot avail and that the moral standard of a community counted more than statutes. One advocated the abolition of mid-wives, and several proposed raising the level of mid-wifery. The fact that the law requires a witness of the act (a condition almost impossible of fulfillment) and that both patients and relatives shield the guilty was noted with regret. Those that believed that the laws were adequate but that enforcement was lacking might make the same criticism of all criminal law, which, to the lay mind, seems an imposing collection of legal loop-holes interspersed with stern threats of penitentiary sentences. A few physicians admitted unfamiliarity with the laws. One stated that contraceptives decrease the number of abortions. Three thought that all abortions should be made reportable to the board of health.

4. Is the morbidity high or low? To this question fifteen (15) replied that the morbidity was low and twenty-two (22) believed it to be high.

5. Approximate percentage of fatalities? Of the twenty-two (22) answers returned the estimates varied from .1% to 35%. The average estimate was 12.5%.

Before discussing the actual statistics, it is well to remember that accurate estimations of death rate, outside interference, morbidity, and method of induction of abortion cannot be gathered. The very nature of the offense leads to concealment and prevarication. Hospital cases, in a strange and sometimes antagonistic atmosphere, will not tell the truth. Many have been bound to secrecy by the most solemn oaths. We get a clearer view of the subject during the course of private practice.

The writer was especially anxious to arrive at some conclusion as to the death rate from criminal abortions, but finally decided that reliable figures were not available. At the city board of health such deaths are filed under the headings of septicemia or peritonitis, and there are frequently misleading statements in the actual death certificates. There are annually between six and seven thousand deaths in the City of New Orleans, and a thorough review of the certificates of the entire number would be necessary before any information could be gathered. The routine taking of histories has demonstrated to physicians that there are thousands of abortions, spontaneous or induced, that never require medical care. We are called to treat the complication, ordinarily pain and hemorrhage, and occasionally sepsis. Just as it would be unfair to judge from hospital statistics the true mortality of influenza, so it is inaccurate to judge from the same source the mortality of abortions.

The records of the coroner's office during the period from January, 1923, to October, 1926, were reviewed. These covered 4,825 deaths. Of these 20, less than one-fifth of one per cent, were classed as being due to abortions. Two deaths were said to be due to criminal abortions, two as being probably due to criminal abortions, five were labeled spontaneous and the remainder simply as abortion. The immediate cause of death in every instance was given as peritonitis and septicemia. The coroner is an officer of the law, and is unwilling to place

the stigma of criminality without definite proof. However, "When death follows abortion in response to acute sepsis, one is justified in assuming that the abortion was criminally produced." (H. Marx.) Of these twenty fatal cases, nine were colored and eleven were white.

Phillips concluded from a questionnaire answered by seventy-five (75) physicians that in the localities in which they practiced, 63.5% of abortions were criminal. The average death rate was 2%. Royston believed that between 20 and 25% were induced. He thought that the most dangerous were those performed by mid-wives, next the self-induced, and finally those done by physicians. In other words, danger decreases in proportion to conservatism and cleanliness. The introduction of foreign bodies constitutes the greatest hazard, and it is fortunate that the pelvic tissues are gifted with high resistance.

Analysis of the records of Charity Hospital of Louisiana gave instructive results. The system of nomenclature is unnecessarily cumbersome and renders investigation difficult. For example, the term "abortion" is applied to the termination of pregnancy in the first trimester, miscarriage to the second, and premature delivery to the third. The final diagnoses, however, do not follow this classification and we find so-called miscarriages mixed with the abortions. One group of histories is headed induced abortions. A second group contains diagnoses of complete, incomplete, inevitable, threatened, spontaneous, missed and septic abortions. The miscarriages are divided into spontaneous, induced and threatened. There are sound objections to the use of the terms complete and incomplete. If by the term complete we imply expulsion in toto of the uterine contents, we are simply describing the termination of an abortion, and a return to normality. A complete abortion requires no treatment. It would facilitate investigation and filing to divide abortions into three classes: criminal, spontaneous and traumatic. The term

spontaneous should cover all cases due to local or constitutional disease. The term traumatic should be applied after strict investigation to those cases in which it is believed that the abortion was due to external, violent and accidental injuries. The term miscarriage should be discarded.

Charity Hospital Records (February, 1906-October, 1926):

Number of induced abortions.....	120
Number of miscellaneous abortions	2,536
Number of miscarriages.....	322
Total	2,978

Analysis of induced abortions:

White, married	70
White, single	27
Colored	23
Alleged self-induced	37
Alleged induced by midwife.....	35
By professional abortionists.....	1
Admit criminality with vague allegations	9
Alleged induced by doctor.....	1
Traumatic origin alleged.....	14
History indefinite	23
Fatal cases	(10%) 12
Mid-wife accused	6
Self	1
History indefinite	5

Causes of death:

Acute nephritis	2
Peritonitis	7
Septicemia	2
No diagnosis	1

There were five blood cultures on fatal cases, two of which were positive. One showed staphylococcus aureus and one a hemolytic streptococcus.

There were two perforations of the uterus (one found at autopsy, one by laparotomy). A mid-wife was accused by one patient. The second alleged self-induction.

Status of patient at completion of hospital stay:

Cured	84
Improved	15
Deserted	9
Died	12

Maximum febrile reaction:

Less than 100 degrees.....	56
Between 100 and 101 degrees.....	13
Between 101 and 102 degrees.....	11
Between 102 and 104 degrees.....	24
Over 104 degrees	11

Analysis of the last one thousand (1000) histories of the mixed group, including the diagnoses of complete, incomplete, septic, threatened, missed, inevitable and spontaneous abortions:

White, married	537
White, single	41
Colored	422
Admittedly criminal	69
Alleged induced by mid-wife.....	39
Alleged self-induced	21
Statements vague	6
Alleged induced by doctor.....	3
Fatal cases	(.6%) 6

Causes of death:

Myocarditis	1
Eclampsia	1
Tetanus	1
Septis	3

The case of tetanus gave no history and died a short time after admission. It was not regarded as a coroner's case. An autopsy was refused.

One case of post-abortion infection was admitted moribund and the history contained the comment "criminal?" The second showed distinct trauma to the cervix, strongly suggesting instrumentation. This was a coroner's case. The third fatal case of sepsis gave no history of interference. She remained in the hospital eleven days and it was believed that a broad ligament abscess had ruptured into the peritoneal cavity.

Eliminating the deaths from eclampsia and myocarditis, there remain four fatalities in this group attributable to abortions. The case of tetanus is not sufficiently described to enable the reviewer to decide whether the abortion was an incident or whether tetanus followed it. In the latter case there must have been the introduction of a foreign body and therefore, criminal intent.

Two of the infected cases were under strong suspicion, leaving only one out of one thousand or less than .1% mortality, if we judge from evidence given by the histories. It may be mentioned that none of the six fatal cases admitted induction of abortion.

Total histories of miscarriages February, 1906, to October, 1926

Spontaneous	277
Induced	7
Threatened	38
Fatal cases	2
Alleged induced by mid-wife.....	1
Alleged induced by physician.....	1

(Both died of septicemia.)

Analysis of the last 40 personal cases:

Married	37
Unmarried	3
Mid-wives accused	19
Physicians accused	3
Histories open to grave suspicion.....	6
Apparently spontaneous	10
Self-induced	2
Perforation of uterus (by physician)....	1
Death (eclampsia)	1
Septic cases	5

Altogether, 1482 histories were reviewed. There were 21 deaths, a mortality of slightly over 1.4%. Seven deaths may fairly be said not to have been due to abortion, leaving a corrected mortality of 1%. In practically all of the fourteen deaths from sepsis, there was either definite admission or strong suspicion of criminal interference.

The majority of patients who apply to us for the induction of abortion range in attitude from firm determination to absolute desperation. Whether their reasons are financial, eugenic, or based on fear of disgrace, we can seldom persuade them to deviate from their resolution. However, a sympathetic and tactful pointing out of the dangers of sepsis and sterility is the utmost that a physician can offer. We drive a certain number of women to incompetent and brutal operators when our own care would obviously be more efficient.

Subsequently, we are called upon to repair the damage that abortionists have inflicted. These cases give us food for serious thought, but the writer can offer no solution to the difficulty. We have the slender consolation that the inflexible attitude of the medical profession may act as a deterrent. At least we may show our appreciation of the psychology of these unfortunate women by refraining from either sanctimony of abuse. In passing, it may be said that in treating post-abortal cases, no effort should be made to force the confidence of the patient unless the disclosure of the cause would alter materially the treatment. After all, some abortions are spontaneous, and the suspicion of criminality, if directed against an innocent case, is extremely offensive.

CONCLUSIONS.

1. The death rate from criminal abortion is low—probably less, all cases included, than 2%. The general impression of the death rate is erroneous, first, because many cases are not seen by physicians, and second, because only the very sick cases are suspected of interference, and the patients who make uneventful recoveries are often thought to have aborted spontaneously.

2. The death rate will be still further diminished by the popular knowledge of asepsis, and by the adoption of conservative treatment, as opposed to operative interference, by the majority of the medical profession.

3. In this community death from hemorrhage is rare. There was no death from this cause in the 1482 cases reviewed, neither were there any deaths from shock, air embolism or gas bacillus infection.

4. Any factor that reduces the number of unwelcome pregnancies automatically reduces the number of criminal abortions. Contraceptives, condemned by both church and state, are now being widely sold. This is in response to the law of supply and demand. While it is not intended to provoke

an argument on the merits and disadvantages of birth control, contraceptives are probably the greatest single factor in preventing illegal terminations of pregnancy.

5. The vast majority of induced abortions occur in the married. Laws directed towards increasing the responsibility of the father could at best solve only a minor part of the problem, and would be almost impossible of enforcement.

6. The condemnation by certain churches of therapeutic abortion has had a salutary effect in preventing the evils of ill-timed interferences. An abortion performed for insufficient reason is a criminal abortion, and the indications for interruption are becoming steadily less numerous. It is likely that in the future arguments based on a belief in eugenics will have more force than at present, but the profession as a whole is far from being convinced of their practicability. Two of the major menaces to full-term pregnancy, pernicious vomiting and diabetes, may now be controlled in the great majority of instances. Certain other indications are yet beyond the reach of therapy, but even then action should be sanctioned by consultation of the utmost competence. The physician should not lose sight of the fact that he is deliberately destroying a possible life, and that the only real justification for such an act is the saving of another and more valuable life. It is suggested that therapeutic abortion be limited to those cases in which both lives would inevitably be sacrificed. In other words, in the event of a hopeless illness on the part of the mother, the possible prolongation of maternal life should not be sufficient reason to interrupt pregnancy before the fetus is viable. Niedermeyer remarked that "moral theology is not pervaded by so narrow and blind a type of fanaticism as might be supposed, but on the contrary reveals a certain understanding of and sympathy with conflicts of conscience."

7. More laws are not needed. The present laws act as a powerful deterrent and

this is all that may be expected. In twenty-five (25) states during a period of ten (10) years or more there were only forty-four (44) convictions of abortionists.

8. At least one-third of all induced abortions are due to the patient alone. Legislation is as futile in this matter as it is in suicidal cases. There is no record of a trial in the United States of a woman for self-induced abortion. In nine (9) states she is guilty in theory of a felony, in seven (7) states of a misdemeanor and in the remainder there is no statute.

9. No laws can abolish the sale of all possible abortifacients, but advertising and flagrant malpractice can and have been limited.

10. The chief responsibility of the medical profession, though not its entire responsibility, lies in the recognition and cure of disease. Preventive medicine, however broadly we interpret the term, can hardly be stretched so that the burden of abolishing criminal abortion lies solely on our shoulders. The public at large, the church, the legislators, as well as the physician, must share in the task.

DISCUSSION.

Dr. E. L. King: Dr. Ficklen has so thoroughly covered the subject of criminal abortion that there is little I can add. However, it all comes down to the consideration of the midwife. Doctors, of course, are responsible in a certain small percentage of the cases, but as far as my personal experience is concerned the performance of criminal abortion by a physician is uncommon. So we come back to the question that has been agitated for years, that of the midwife. She has existed, obstetrically speaking, since the dawn of humanity, while the doctor has been practicing obstetrics for only a few years, comparatively speaking. Couvelaire, in one of his papers (when he was installed as head of the Banelocque obstetrical clinic in Paris) reviews the struggle of the obstetricians of Paris in trying to gain a foot-hold in the hospitals there. It was quite a struggle, for the midwife had the services and it was a long time before the surgeon could get in. In fact, in the middle ages physicians were not allowed to officiate in normal deliveries; they were only called upon to assist in abnormal cases; that was their function. Even in this

country the physician as an obstetrician is of recent date, but the midwife has been with us always. The difficulty is perhaps not insurmountable, and probably the best method to help overcome this evil is to raise the standard of the midwife. That is the way the European authorities work it and, where she is strictly regulated, the obstetrical records are good.

In Germany, since the world war, criminal abortion has been on the increase and there is no telling what the figures are now. So it is not wholly a question of enacting laws (and enforcing laws against this practice is extremely difficult), but a question of raising our standards. Raise the standard of the midwife, the standard of her pay; secure women of better moral tone, with better education, i. e., better midwives and the result will be fewer criminal abortions. Eliminate the midwife and you require something in her place. There are many people who cannot pay anything like what a substitute fulfilling the requirements would demand and it is a case of this work being done by those who can accept the lower wage. Therefore, as already stated, it remains with us to raise the standard of the midwife.

Now with regard to the enforcement of the law. We have laws, yet, as Dr. Ficklen says, what happens? In several instances I have had a lawyer delegated by the State Board of Examiners to take the sworn statements of patients and once had two patients in the same ward at the same time who gave me sworn statements implicating the same midwife. Prosecution in these cases is not easy. It is hard to secure action on the part of the legal authorities even with the active co-operation of the State Board of Examiners and with sworn statements as evidence. I recall one case where a woman died in the hospital. Her people had uncontrovertible evidence that an abortion had been performed. Witnesses had seen her go into the midwife's house, other women awaiting their turns had seen her pass through on her way out. The case was taken to the authorities. The authorities asked whether anyone had actually seen the instrument introduced into the patient's uterus. No one had. The evidence was hence no good. So much for the attempt to secure results by court procedure.

As regards treatment, Dr. Ficklen is right in stating that the policy of non-interference is best. We get many of these cases at Charity Hospital and our rule is to let them alone unless there is hemorrhage, and this happens but seldom. Another point that Dr. Ficklen has brought out is that a patient seldom dies of hemorrhage. I have not had a single case of death from hem-

orrhage following criminal abortion. Of course if the cervix is standing open and the uterine contents are protruding therefrom, gentle removal is indicated. If the cervix is closed, we refrain from active interference, even though we know that the uterus is not empty, unless our hand is forced by free bleeding.

Dr. Leon J. Menville: The subject of abortion, so ably presented by Dr. Ficklen, is one of great importance and deserving of careful consideration. I wish to thank him for his kind remarks relative to the activities of the State Board of Medical Examiners in cases of criminal abortion. Our Secretary, Dr. Harrison, is fully cognizant of the situation and his untiring efforts toward applying an effective remedy are well known to the Board.

We have always co-operated with the profession in every possible manner, realizing that without their assistance in reporting cases of abortion we would be seriously handicapped. Our activities are dependent upon reliable information and co-operation of the patient. As an example: Dr. E. L. King reported a case to us, and obtained a sworn statement of the patient while very sick, accusing a certain midwife of performing the abortion. We immediately investigated the case and had the midwife in question come to the office of the Board and, to our surprise, we were presented with another sworn statement from the same patient, absolving the midwife, giving as an excuse, that the first sworn statement was obtained when she was very sick and did not know what she was doing when she signed the papers.

The State Board of Medical Examiners is not given the power of prosecuting persons performing criminal abortion. Should such persons be midwives, we have the power of refusing to renew their certificates, and prosecute such midwives who continue to practice after they have been refused renewal. You can at once understand the value of the renewal clause in the medical act, affecting not only midwives, but physicians as well.

Midwives are placed under the supervision of the State Board of Medical Examiners as provided by law. Before obtaining a license to practice their profession they must satisfy the Board as to their moral character and pass a satisfactory written examination. The midwives of New Orleans are well organized. They have a Midwives' Association that meets regularly, when papers are read and lectures given them by medical men. The Midwives' Association of New Orleans co-operates with the State Board in matters of abortion and should the State Board refuse

to renew a license of one of their members, this member is dropped immediately.

Dr. F. M. Johns: In connection with Dr. Ficklen's paper it is interesting to note that in a recent issue of the J. A. M. A. the Berlin letter recounted the letting up of severe penalties for abortions in Germany, and stated that all restrictions on abortions had been removed in Russia as long as they were properly performed by licensed physicians—and that the Soviet Hospitals were overcrowded with patients of this type.

Dr. Ficklen (closing): The present situation is simply an outgrowth of the law of supply and demand. The financial returns for the individuals who produce abortions are so great that there will always be a certain number of people who are tempted. The rigorous training given to midwives and physicians has robbed the procedure of many of the dangers from sepsis which formerly existed.

APPENDICITIS DUE TO BACILLUS TYPHOSUS.*

WILLARD H. PARSONS, M. D.,

VICKSBURG, MISS.

A review of the literature for the past twenty-five years indicates that appendicitis due to *B. typhosus* is comparatively rare. Probably no organ in the body has received more attention than the appendix, and from this study humanity has reaped a golden reward. Typhoid fever has likewise been thoroughly investigated, and long years ago it was stated that not uncommonly this disease leaves as its legacy various lesions of the biliary tract.

It has often been pointed out that quite frequently an infected appendix may result in an involvement of certain of the other intra-abdominal organs. It is rather interesting to note the very divergent opinions expressed as to the frequency of the invasion of the appendix by the typhoid bacillus. It would seem that such infection may well occur by contiguity as well as by the vascular and lymphatic routes.

*Read before Staff Meeting of Vicksburg Sanatorium, Vicksburg, Miss., Nov. 10, 1926.

The appendix, I think, unquestionably shares in the pathology of typhoid fever. Typhoid ulcers occur largely in the lower ileum, which histologically is not unlike the appendix in certain features, and anatomically is not far distant. From time to time various unusual causes of appendicitis have been suggested. Always it has ultimately been shown that the main offender is *B. coli*.

Wooley, fairly recently, tabulated a series of one hundred appendices of which sixty-six, by histologic methods, were found actually to be acute.

By careful bacteriologic examination the organisms found in a large majority of cases were *B. coli*. Whereas, appendicitis due to *B. typhosus* may not comprise more than a very small percentage of the cases of appendicitis, I believe, nevertheless, that in cases of typhoid fever, infection of the appendix is not so very common.

Sands, in 1857, brought to the attention of the Pathologic Society of New York a case of general peritonitis caused by a ruptured appendix, and in this case the solitary and agminated glands of the small intestine had the appearance that often is found in typhoid fever.

Murchison, in 1865, reported a case of perforated appendix in which there were typhoid ulcers in the ileum and cecum.

Moore, in 1883, presented four cases to the Pathologic Society of London.

Fitz, in 1891, reviewed one hundred and sixty-seven cases of perforating typhoid ulcers, five of which were in the appendix.

Hopfenhausen studied thirty appendices during an epidemic of typhoid fever. In two there were perforations in the appendix. In the majority there was marked cellular infiltration of its walls.

Osler, from a study of five hundred cases of typhoid fever, stated that abdominal pain and tenderness is present in three-fifths of the cases, but he made no

mention of the infection of the appendix, although he noted that sixteen cases had cholecystitis.

Nelson stated that perforation occurred in two per cent of 13,800 cases of typhoid studies; that the perforation was usually in the lower ileum and that it had occurred in the appendix.

Ochsner, in a study of one hundred and sixty cases of appendicitis, found the streptococcus alone in two cases, enterococcus in three, staphylococcus in one, and *B. coli* in one hundred and fifty-two.

DaCosta makes no mention of the condition.

Warbasse does not comment upon the frequency of the condition, but lays down the dictum that typhoid appendicitis should be treated the same as typhoid fever and that appendicitis coincident to typhoid should be treated as appendicitis.

Rosenberger says that acute appendicitis due to *B. typhosus* is comparatively rare. (Personal communication.)

Broders stated that eighty-seven cases of typhoid fever have been observed at the Mayo Clinic with one coincident appendicitis, which presumably was due to the bacillus typhosus.

Deaver believed typhoid fever to be one of the remote and at times direct cause of appendicitis. He believed lesions of the appendix to be common in typhoid fever, that usually there is a catarrhal inflammation which may progress just as the same process elsewhere in the alimentary tract. We may have later, as the result of infection, a stenosed organ.

Deaver quoted an observer who found, in thirty fatal cases of typhoid studied, eighteen cases of appendicitis and in four of these death was directly due to the appendiceal infection. He stated that he has had one case of appendicitis due to *B. typhosus* without general typhoid. Few such cases are found in the literature.

Elmer believed that appendicitis is not frequent with typhoid fever, but that typhoid ulcers of the appendix are fairly common.

Gage reviewed this subject and collected in systematic fashion much of the literature pertaining to it. He operated upon one case of appendicitis due to *B. typhosus* and found *B. typhosus* in the culture from the appendix.

Amich and Stokes reported a similar case in 1905. In this instance typhoid fever had occurred thirteen years before. Culture from the appendix at the time of its removal showed *B. typhosus*.

Skelton reported one case in 1917 and referred to one other.

Ridgeway reported two cases, but culture was not made in either case and in only one was operation performed so the diagnosis must be accepted with question.

Carter had five cases of appendicitis complicating typhoid. In two recovery followed operation.

Widal reported a case of appendicitis due to para-typhoid. Operation was performed upon the sixth day. Both the culture from the appendix and the blood stream showed para-typhoid bacilli. This case recovered.

Hendon has had one case in which the appendix perforated at the site opposite the mesentery, which incidentally is a rather unusual location for perforation.

In this connection a case of my own is of some interest:

W. I. Colored male, age 25, carpenter.

Father dead, age 40, cause unknown. Mother 50, living and well.

One brother living and well, 28. No brothers dead. Three sisters living and well. Two sisters dead, causes of death and ages attained unknown.

Tuberculosis, cancer, renal diseases negative.

Personal history: Health always good. Uses tobacco. Alcohol occasionally. Has been carpen-

ter for six years. Usual diseases of childhood. Gonorrhea. Denies lues.

C. C. "Pain in stomach." Saturday morning, two weeks ago, had headache and fever developed. He remained in bed. No nose bleed, no cough. No pain except headache. Diarrhea. Headache frontal in type and more marked on right side. Appetite good. Slept well, no chills. No eruption on skin.

During afternoon of present day sudden acute pain, "Hit me around the navel." Nausea and vomiting. Pain continued and became intense.

Examination 9 P. M., October 2, 1924. Patient apparently in pain. Mental condition cloudy. Very poorly nourished, young adult, male. Head and neck negative except that the tongue was considerably coated and some nasal obstruction. The heart sounds were not good, poor in volume. The rate was decidedly increased. Scattered rales over the chest. Abdomen was distended; there was marked rigidity especially in right quadrant. There was exquisite tenderness over the region of the appendix. Temperature sub-normal. Spleen could not be palpated. On account of distention palpation unsatisfactory.

Operation with local anesthesia. McBurney's incision. Perforation of the ileum slightly smaller than a copper cent piece and situated about one and one-half inches from the junction with the cecum. Perforation was closed with a purse string suture. The appendix was very much swollen and ulcer was noticed near the terminal end. Small perforation near the end of the appendix. The appendix was removed, usual technic. Drainage and usual closure. The appearance of the perforation and the ulcer of the appendix suggested typhoid.

Examination of the blood prior to operation:

Total leukocyte count, 7,200.

Differential count polymorphonuclears 65; small lymphocytes 27. Large lymphocytes 8.

Urine: Amber in color. Specific gravity 1016. Acid reaction. Albumen one plus. Acetone three plus. Diacetic acid one plus. A few blood and pus cells present. Coarsely granular casts four plus. Fine granular two plus. Hemoglobin fifty-one percent. (Dare method.) Total erythrocyte count 2,600,000.

Direct smear from the lumen of the appendix showed: Gram negative bacilli, gram positive bacilli. Gram positive cocci, many small lymphocytes and occasional pus cells.

B. typhosus isolated from the feces. *B. typhosus* isolated from the appendix.

Pathologic report of the appendix: The appendix measured ten cm. in length, and its largest diameter 15mm. Between two and one-half and three and one-half cm. from the distal end there is enlargement. There is an abscess with perforation two mm. in diameter. Cultures taken at this point.

The lumen is small and the mucosa is lined by cells which show an unusual amount of mucus. The sub-mucosa contains an abundance of lymphocytes, outside of which are seen rather larger cells which have frequently been found in typhoid fever. These round cells are seen infiltrating the inner circular layers of the appendix and are also present but in smaller numbers in the outer longitudinal layers. The sections themselves suggest typhoid fever and taken with the history the disease seems certain.

Section for microscopic examination goes through an area which constituted an abscess cavity. The tissue here is necrotic and infiltrated with numerous pus cells.

Diagnosis: The appendix showed the changes of typhoid fever. Small abscess in the wall with perforation.

Recovery from the operation was slow but ultimately complete. Patient ran a typical typhoid course.

Examination May 15, 1925, entirely well.

In resumé it would appear that involvement of the appendix occurs in typhoid fever sufficiently often to be borne in mind, and when definite appendicitis occurs it is my opinion that the appendix ought to be removed and that the mortality will be lower than if palliative measures are tried.

I desire to thank Dr. B. T. Terry of Vanderbilt University, Nashville, Tennessee, and Mr. A. A. Aita, formerly of the Vicksburg Infirmary, for making the laboratory examinations incident to the case.

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NOTE ON THE OCCURRENCE OF VARIOUS TINEAE IN NEW ORLEANS.*

WITH REMARKS ON TRICHOPHYTON LOUISIANICUM.

ALDO CASTELLANI, M. D.,

*Professor of Tropical Medicine, Tulane University
of Louisiana,*

NEW ORLEANS.

As well known, the principal Tineae may be classified as follows:

- (a) Due to fungi of the genus *Microsporum-Microsporiasis*.
- (b) Due to fungi of the genus *Trichophyton-Trichophytosis*.

*Read before the Orleans Parish Medical Society, March 28th, 1927.

- (c) Due to fungi of the genus *Epidermophyton*-*Epidermophytosis*.
- (d) Due to fungi of the genus *Achorion*-*Favus*.
- (e) Due to fungi of the genus *Endodermophyton*-*Tinea imbricata*.
- (f) Due to fungi of the genus *Malassezia* and genus *Cladosporium*-*Tinea versicolor*, *Tinea flava*, *Tinea nigra*.

With regard to the comparative frequency of these various Tineae in New Orleans I have not exact statistics, but I think I can come to some general conclusions based on the experience I have had during the last two years, and on the information kindly given me by Professor Menage and Professor Hopkins who have been in charge of the Dermatological Department of the Tulane Medical School and of the Skin Clinic at Charity Hospital for many years.

Microsporiasis, viz., *Tinea capitis* or *corporis* due to *Microsporum audouini*, seems to be extremely rare; in fact, I have not yet seen a case.

Trichophytosis, viz., *Tinea capitis* or *corporis* due to various *Trichophyton*s occurs, but is not very frequent; it is much less frequent than in Europe or the Northern States of America.

Epidermophytosis in all its forms is extremely common.

Tinea favosa or *favus* is exceedingly rare. Dr. Menage and Dr. Hopkins inform me that the few cases they have seen were among immigrants.

Tinea imbricata is absent.

Tinea versicolor and *Tinea flava* are common; *Tinea nigra* due to *Cladosporium masoni* and similar fungi is absent, I have seen a case but the infection was probably contracted in Central America.

Trichophytosis due to *Trichophyton louisianicum*,—a type of trichophytosis not

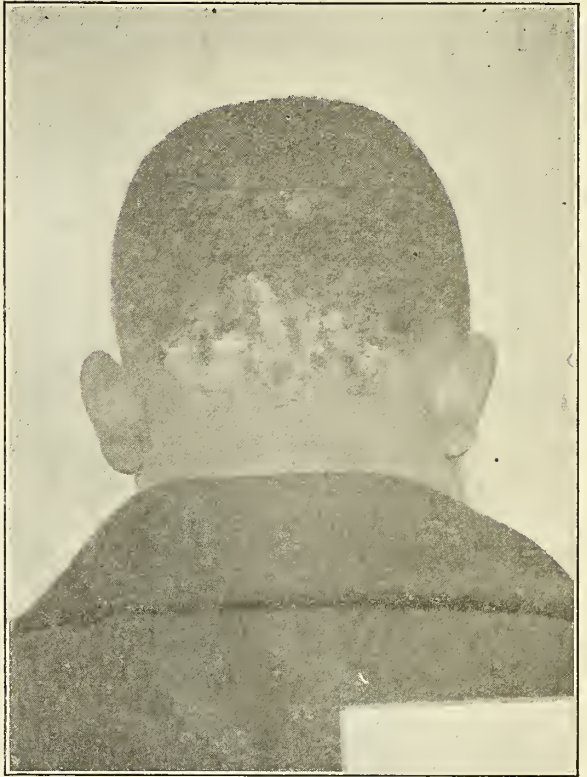


Fig. 1—Trichophytosis due to *Trichophyton louisianicum*

rare in New Orleans is one caused by the fungus which I have called *Trichophyton louisianicum*. The fungus may attack the scalp and hair as well as the glabrous regions. So far I have seen it only in colored children. The lesions are generally superficial. When the glabrous parts—usually the neck—are attacked, oval or roundish white patches are seen with pityriasic desquamation; an interesting point is that at times a large number of yeast-like organisms are present in addition to the trichophyton fungus, and it is quite possible that the white appearance of certain patches may be due to the presence of the yeast-like fungus; by mycological cultural methods both organisms may be grown; the yeast-like organism is grown much more easily than the trichophyton fungus.

A moist variety caused apparently by the same fungus is also met with; in this variety the patches show thick crusts rather than scales and the condition may

be mistaken with a form of seborrhoea on which a pyogenic infection has become engrafted.

CULTURAL CHARACTERS OF THE FUNGUS.

Acid glucose agar 4%. In fully developed cultures three to four weeks old a fairly abundant growth is noted with a central white portion consisting of white duvet springing up from a rather hard mass; the peripheral portion of the growth is yellowish; the submerged portion, viz., the position growing deep into the medium



Fig. 2.—*Trichophyton louisianicum*. Acid glucose Agar culture.

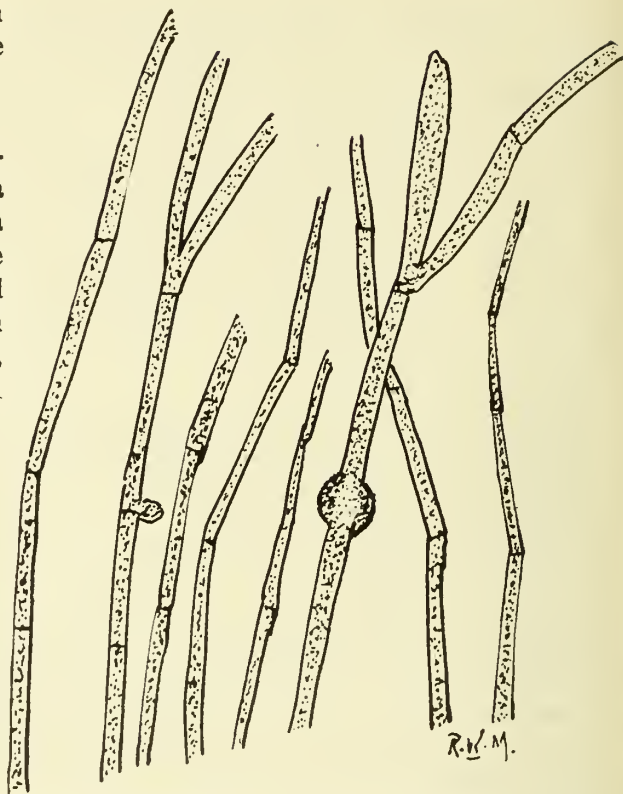


Fig. 3.—Microscopic appearance of *Trichophyton louisianicum* from culture.

frequently shows one or two or several spots of reddish, or brownish-reddish color, the reddish color is usually absent in very young cultures.

Glucose agar prepared with peptone water instead of broth.—The appearance of the growth is identical with that observed in cultures on glucose agar prepared with broth, but the yellow color is much more marked.

Neutral glucose agar 1%.—Growth less vigorous; central white knobs; periphery yellowish.

Casein Digest agar 3%.—Growth fairly abundant, covered with white duvet—portions of submerged growth may be reddish or yellowish-reddish.

Acid maltose agar 4%.—Appearance somewhat similar to that noted in glucose agar cultures, but growth less abundant and yellow color much less marked—or may be absent.

Gelatine agar.—Knobby growth, tending to be almost cereberiform, covered with white duvet—peripheral portion may be yellowish.

Glycerine agar.—The fungus grows profusely; the growth is white with at times a yellowish tinge.

Gelatine.—The fungus slowly liquefies gelatine; usually liquefaction begins on the third or fourth day.

Sugar media.—No gas is produced in any sugar. A slight amount of acidity is occasionally present in levulose and a few other sugars after three weeks incubation.

Microscopical examination of preparation from cultures.—So far the microscopic examination of cultures obtained last year and this year has shown absence of definite spindles, "fuseaux" of the French authors (macroconidia) and if this feature were permanent the fungus could not be placed botanically in either the genus *Trichophyton* or the genus *Microsporum* or the genus *Epidermophyton*. Temporarily I have placed it for convenience sake in the genus *Trichophyton*, section *incertae sedis*. With regard to microscopic features, the fungus must be separated from the following organisms: *Trichophyton sulphureum*, *Microsporum flavescens*, *Trichophyton ochraceum*, *Trichophyton flavum*.

In contrast to *T. sulphureum* there is no speckled appearance and the cultures are not crateriform; moreover in fairly old cultures reddish or brownish-reddish spots are often seen in the submerged growth; with regard to *M. flavescens* described by Horta in Brazil, 1912, it appears it was microscopically a typical microsporum fungus; with regard to macroscopic features, the whole growth including apparently the cent was of a yellow color; *Trichophyton ochraceum* and *Trichophyton flavum* give rise to cereberiform colonies.

Conclusion.—From my own researches as well as from those of Professor Menage

and Professor Hopkins it would appear that the following conclusions are correct:

1. *Microsporiasis* due to *Microsporum audouini* is extremely rare or absent. I have not yet seen a case.

2. *Trichophytosis* is much less frequent than in the Northern States and in Europe.

3. *Epidermophytosis* in all its forms is extremely common.

4. *Endodermophytosis* (*T. imbricata*) is absent.

5. *Tinea versicolor* and *Tinea flava* are common, while *Tinea nigra* is absent or extremely rare. I saw a case last year but the patient had contracted the affection in Central America.

In this paper I have called attention again to the occurrence of a variety of trichophytosis due to a fungus which I have called *T. louisianicum*. The fungus has the following principal cultural characters: growth fairly abundant, on gucose agar and many other sugar media; in glucose agar the central portion of the growth is whitish, being covered by white duvet and the peripheral portion is yellow or yellowish and in the deep submerged portion there often are some reddish or brownish reddish spots; the growth is not crateriform. Gelatine is liquefied fairly slowly.

LITERATURE.

Castellani: The Gehrmann Lectures, March, 1926.

DISCUSSION.

Dr. Ralph Hopkins: After seeing Dr. Castellani's beautiful specimens and listening to his very lucid talk, I feel that we owe him a word of appreciation for the privilege of hearing what is really the last word in the etiology of these fungus infections.

I would like to ask Dr. Castellani one question. It pertains to the action of the X-rays on cultures of these fungi—whether they have any effect on the growth of cultures? I think that we have all noticed considerable improvement in cases rayed in that group which Dr. Castellani mentions as so common in Louisiana, the epidermophyton infections.

I cannot add anything to what Dr. Castellani, who is master of this subject, has said.

Dr. Henry E. Menage: We are certainly a most fortunate audience in having the privilege of listening at first hand to a study of the Tineas from a man of Professor Castellani's ability. We always learn something when in contact with him and particularly on that subject.

I am glad to hear that he places the Epidermophyton infection as most common in the United States and probably the most prevalent in the South, as I have often called attention to that fact. From an economic standpoint, the Epidermophyton has become an extremely important factor in this community. About three years ago I received a communication from the Surgeon General's office asking for what information we may have on the subject, as the civilian employees in Washington were suffering considerably from that infection and their efficiency reduced. We gave him all the information we had at the time and some months later received a copy of report by Doctors Butler, Houghton and Cooper on Mycosis of the Hands and Feet which proved very interesting and much in line with our experience in New Orleans. The report gave in four groups of men, viz: marines, 22.2%; patients in hospitals, 17.6%; officers, 18.1%; and hospital corpsmen, 30%, with an average for all groups of 20.8%. The duration in individual cases, ranging from six months to twenty-four years, average 1.42 years. When we consider the large number of cases we see in the clinics and in private practice and the percentages in the groups above referred to, in the City of New Orleans, with its population of over 400,000, there should be at least 20 to 30 thousand individuals suffering from that infection in some form or other and in one or more of its favorite localities (hands, feet, inguinal regions, nails and even face). It is no respecter of classes, attacking the professional man, the laborer as well as the woman of leisure, occupation in many instances prolonging the disease indefinitely.

I am also pleased that Professor Castellani mentioned that the anal and vulva regions are often attacked by the Epidermophyton, although pruritus may be the only symptom present.

I enjoyed very much the professor's talk.

Dr. Aldo Castellani (closing): I should like first of all to thank Professors Menage and Hopkins for their very kind remarks. The investigation for which I have been congratulated would never have taken place without their help and assistance.

Professor Hopkins has inquired as to whether x-rays have a direct action on the fungus. I think that the roentgen rays have no very distinct action on the fungus. They retard its development—they do not kill the parasite. Personally I am inclined to believe that the x-ray, while not having a direct action on the fungus make, by their action on the skin, the soil unfavorable for the development of the growth.

ANGINA PECTORIS.*

CHAILLE JAMISON, M. D.,

NEW ORLEANS.

Angina pectoris, that instrument of death, constantly becomes of increasing interest and concern to the American physician when it is realized that diseases of the heart and arteries have become the principal cause of death in the United States, for more than ten years now, having outstripped the great white plague, consumption, and "The Captain of the Men of Death," pneumonia. A disease then that involves both the heart and its principal arteries must arrest our particular attention. Many years ago Osler pointed out that twice as many deaths from angina pectoris occurred among Americans as among the British. We need only pick up the newspapers and note the constant mention of sudden death among notables, to realize that angina pectoris is probably the cause of the major number of such sudden deaths (even though they be described as acute indigestion, apoplexy, and what-not) to have this question brought home in our daily lives, both to the physician and to the layman. There is every reason to believe that the incidence is increasing day by day, and that, in company with other diseases of the heart, the mortality is greater from it than that much more dreaded disease, cancer.

It is surprising that the history of this disease does not date far back. It is almost unbelievable that such dramatic and ter-

*Read before the St. Tammany Parish Medical Society and before the Staff of the Hotel Dieu.

rible symptoms, with the almost inevitable deadly result, should not have been noted by the writers of ancient and mediaeval medicine, yet such apparently is the case. Are we to believe then that this disease has only appeared in comparatively modern times? It was first clearly and definitely described by Heberden in 1768, although Dr. Rougnon had described such a case in a letter shortly before this time. John Hunter is known to have had the disease for fifteen or twenty years and to have finally died in an attack.

The cause of the malady has been attributed to different factors—thus Jenner showed its association with diseases of the coronary arteries; Allbutt believed that it was always accompanied by aortitis, with dilatation of the first part of the aorta; Mackenzie taught that the pain could best be considered as an expression of exhaustion of the heart muscle. In the last twenty years it has been very definitely shown that one of the most common causes of angina pectoris of an extremely fulminating and deadly type can, with certainty, be ascribed to coronary thrombosis. The idea that angina pectoris is always due to aortitis and dilatation of the arch of the aorta seems to find little favor at the present time, and we are justified in discarding this as a common cause of true angina, though it is recognized that aortitis is often accompanied by a definite train of signs and symptoms, among which a retro-sternal pain, particularly located behind the manubrium, is prominent. No one can doubt who has seen acute dilatation of the left side of the heart that precordial pain, often radiating in character, is a frequent symptom. We need only recall our boyhood days, when perhaps we ran to a point of exhaustion, when we were brought up sharp to a stand-still by shortness of breath and pain over the heart. This is a most attractive theory, and it is certainly confirmed in a large proportion

of autopsy cases, where the sclerosis of the coronary arteries is only moderate in extent, though the patient may have had very definite anginal pains during life. We find an analogy for such a condition in the common clinical symptom of intermittent claudication occurring in the lower extremities after exertion, when arterio-sclerosis is present. I have heard experienced pathologists say, however, (and it has certainly been my own experience), that they have never seen a case of angina pectoris that did not show coronary sclerosis at autopsy, but that many cases of coronary sclerosis were seen that never had anginal pains. When coronary thrombosis is present, the pathology is so clear-cut that there can be no doubt of its relation to the disease.

The pain originating in the heart, or the root of the aorta, is transmitted first to the cardiac plexus by connecting nerve filaments; it then reaches the nerve centers by two different paths—that of the pneumogastric, which includes the depressor nerve, and that of the sympathetic. The fibers traverse the inferior cervical ganglion and reach the spinal cord by way of the posterior roots of the eighth cervical and the first and second dorsal. The pain radiates towards the periphery, following the distribution of the nerves springing from the roots of the eighth cervical, and the first and second dorsal. These are the circumflex, the internal cutaneous, and the ulnar nerves of the same side. The sympathetic nervous system has usually three direct connections with the cardiac plexus, the superior, middle and inferior cardiac nerves; although all three carry motor fibers, only the lower two contain sensory fibers from the cardiac plexus to sympathetic ganglia. The part that these ganglia play in the distribution of heart pains is of great importance because of certain surgical methods of treatment, which are now advocated, and to which reference will be made later.

SYMPTOMATOLOGY.

Angina pectoris is a disease of middle age, cases under thirty being so uncommon that their occurrence can only be regarded with skepticism unless proved at autopsy. It is far more common in men than in women, and more common among Americans than any other race. Apparently, if the observations of those clinicians with wide experience in this class is to be regarded, the negro is rarely affected by angina; the statistics at the Charity Hospital do not bear out this opinion, and one of my associates, Dr. Robbins, has taken occasion recently to examine the case records of that institution with regard to this point. He found that these records showed the incidence of angina pectoris to be greater among the negroes than among the whites. Let me call your attention, however, to the fact that these cases are unlikely to be bed-ridden, and that records based on house cases are likely to be fallacious for this reason. Only the observation of a large number of clinic cases, and observations of those physicians who practice largely among the negroes can clear up this interesting point. If my own experience is worth anything, based on many years of service in the negro wards of the Charity Hospital, it is that heart disease is much more prevalent among the negroes than among the whites, and particularly heart disease associated with extensive fibrosis of the arteries, but that angina pectoris, in any of its forms, is comparatively rare in this race.

The classical description of Heberden may be taken as the example of true angina pectoris. To quote from Vaquez, "The symptoms are so typical that it is easy to construct a picture in all of its details when the patient has described one of them. The first attack occurs in apparently perfect health. After the mid-day meal, or the evening meal, on quickening his pace a little, the patient suddenly feels behind the sternum at the level of the upper intercostal spaces, a pain which

startles and alarms him. At first, this pain is only a discomfort; the patient attributes it to indigestion and thinks that a little exercise will soon dissipate it. He walks on, but the pain, instead of disappearing, increases steadily. It extends across the upper part of the chest toward the shoulder, especially the left, then passes down the arm of the same side, keeping to the inner side of the arm, to the ends of the fingers, especially the ring and little fingers. At the same time, there is an indescribable dread, a firm conviction that he will die if the agony continues. Mastered by the pain, the patient stops walking, and, as if by magic, the pain stops too, either immediately or, after a few minutes, gradually decreasing in intensity. A new effort at walking is followed by the same result and it is only at a very moderate pace, avoiding all exertion, that the patient can reach his destination, fearing at every moment a return of the symptoms." Such is the angina of effort, and it must be borne in mind that this train of symptoms may vary to a great extent from the classical. However, the relation of the pain to a heavy meal, or to unusual exertion, such as running after a street car, must be borne in mind; also attacks following emotion, particularly anger and excitement, are to be included under this classification. We do not always find that the pain radiates, and it is not at all necessary for diagnostic purposes that it should radiate down the left arm, as it may radiate in both arms, into the neck, to other portions of the body, or not at all. The patient usually describes the pain in the chest as vice-like, as though the heart were squeezed by an iron hand, and often it is said to resemble a steel-like band encircling the lower chest. A profuse perspiration, Hippocratic facies, are common; only too often such attacks are concluded by the patient's sudden death.

The angina pectoris of decubitus differs from the angina of effort only in the fact that the attacks come on at the time of

most complete repose, usually at night. The patient is awakened from sleep by a terrific pain, grinding and crushing the chest, soon radiating to the shoulders and arms, indescribably agonizing in character. The sense of impending death is acute. The patient sits up in bed, pale, livid, and anxious, with beads of perspiration on the brow, a short hacking cough, and the expectoration perhaps, of a frothy blood-tinged mucus. Such attacks are prone to last longer than those brought on by effort, and may extend for hours, gradually waning, perhaps waxing again, eventually either to pass off or end in death.

Clinical cases of angina pectoris usually present a mixture of the two types, the angina pectoris of effort eventually becoming associated with that of rest.

The symptoms of coronary thrombosis are usually clear-cut. The patient is generally about forty years of age and may never have had previous attacks of pain, certainly no attacks of a characteristic nature. He has perhaps consulted his doctor for a slight pain in the epigastrium, which is usually attributed to indigestion or "gas." He may be even under the suspicion of having a chronic appendix, gall-bladder, or ulcer of the stomach. Without warning, and at any time during rest or effort, there is the occurrence of a sudden agonizing pain, located over the precardium, which may, or may not, radiate. It is often located with greatest intensity in the epigastrium. The usual methods which the patient has found efficacious in relieving his indigestion, such as warm drinks, bicarbonate of soda, etc., are of no avail. The pain increases in intensity. The patient's expression leaves no doubt of his exquisite agony. The ashen face, bathed in sweat, the labored respirations, the constrained attitude about which there is nothing characteristic, leave us in little doubt of the reality of a stupendous emergency. Only too often such symptoms are soon followed by edema of the lungs, auricular fibrillation, or heart block, with death.

Should the patient recover from the attack, the train of symptoms and signs which then follows, is characteristic. In a few days, or a few hours, there is a rise of temperature, usually to 101 or 102, and at this time a pericardial friction rub often makes its appearance. Dyspnoea on the least exertion is common, and there is a sense of soreness and pain in the chest, often accompanied by hyper-algesia. The pulse at this time may show extra-systoles, partial heart block, or auricular fibrillation. The blood pressure is either normal or below normal, and leukocytosis is common.

It cannot be too strongly emphasized that in the ordinary types of angina pectoris the physical examination is entirely normal, nay, it may even be said that these patients appear in the most robust health, and the physical signs lead the examining physician to believe that his patient is an exceedingly good risk. On the other hand, it is common to find angina associated with cardiac hypertrophy and hypertension and this is particularly true of the milder types of the angina of effort.

DIAGNOSIS.

This rests primarily upon the history, particularly if the patient is not seen during an attack. The patient's appearance during a typical attack is so characteristic as to leave no doubt of its nature. He is either in a standing or sitting position, with the forearm flexed on the elbow, with the arm tight against the chest, and the body usually bent toward the left side. The appearance of the face denotes agony. With such cases, then, there is no difficulty. On the other hand, we are often casually told by a patient that he notices on going up stairs, or on other slight effort, that he is often taken with a curious pain on the inner side of his elbow and a numbness and tingling in the fingers. Perhaps a closer questioning will bring out the fact that there is also, at this time, precordial pain. Where such pain is complained of, we may find an elevated blood pressure and an enlarged heart. Again we may find that

the patient complains only of pain in the epigastrium which he suggests is due to too heavy or too fast eating. It is these cases that present nothing classical, with perhaps a normal heart, normal pulse and blood pressure, that tax our diagnostic acumen to its greatest. The diagnosis of angina is scarcely justifiable in these atypical cases unless a most thorough and painstaking general examination, including radiological and laboratory studies of the gastro-intestinal tract, exclude pathology which might explain such symptoms. We must remember that one may have an attack of angina pectoris which is not followed by other attacks for many years; on the other hand, attacks may occur in cycles, every few days for months, and disappear either spontaneously or under treatment. It is a clinical axiom that if one attack of angina has occurred other attacks will inevitably follow sooner or later. The physical signs of coronary thrombosis have already been alluded to and are not to be gainsaid. The electro-cardiogram may offer some help, as there are changes in the form of the ventricular complexes, which are almost pathognomonic of the condition, and, when available, electro-cardiograms are of some aid in diagnosis. However, it is to be remembered that the electro-cardiogram may be entirely normal in patients with angina pectoris, and it is to be emphasized that the correct diagnosis usually can, and should be made, without the aid of graphic methods.

DIFFERENTIAL DIAGNOSIS.

True angina is to be differentiated from psuedo-angina or angina pectoris vasomotoria. This disease is merely a manifestation of hysteria, and if it is borne in mind that it is common in the young, where true angina is extremely rare; that it is also more common in the female, where again angina pectoris is rather rare; and that, finally, it is always accompanied by other symptoms of an unstable nervous system, little difficulty will be encountered. If one sees the patient in an attack, the diagnosis

is never seriously in doubt. As nausea and vomiting are common in both angina and coronary thrombosis, and as collapse often occurs, the question of perforated gastric or duodenal ulcer may arise, and perhaps can only be decided after a few hours have elapsed. As this may be disastrous in the case with a perforated viscus, full emphasis must be placed on the previous history and the few physical signs noted above. I have only had to face such a situation on one occasion, and we were then helped by the absence of any abdominal rigidity and the agonizing character of the pain which endured, becoming more and more severe.

TREATMENT.

It is a grave mistake, that has been made for too many years, particularly in the teaching of medical students, that angina is a disease in which treatment is of no avail, and in which the outcome is already written in the book of fate. The majority of text books dilate on the treatment of the attack itself. This is as it should be, but due emphasis must be laid on the treatment between attacks, so that these may be of less frequent occurrence, or may be avoided altogether. It is scarcely necessary for me to mention to any well-informed body of medical men that amylintrite by inhalation, or a nitroglycerine tablet under the tongue, or by hyperdermic, will relieve attacks and often thereby save life. It should be emphasized that the patient known to have angina pectoris should never be without one of these remedies, and should use them at the first intimation of trouble. This medication has no effect in coronary thrombosis, and in this form of the disease nothing is of avail except morphine by hypodermic and in large and repeated doses, and even this is strikingly lacking in effect. It is just in this question of treatment that a clear understanding of the type of angina from which the patient suffers, is of the utmost importance. Let me first consider the angina of effort; when this diagnosis has been clearly established, the direction treat-

ment must pursue is clear and undeviating. This form of angina is evidence of exhaustion of the heart muscle, either due to disease or the muscle itself, or to lack of an adequate blood supply which must be called for under the increased function due to effort, and which is not forthcoming because of narrowing or rigidity of the coronary artery. Such cases should be treated by at least a month or six weeks' rest in bed. Potassium iodide appears to be of value, but for reasons which we do not understand: I advocate its administration in as full dosage as the patient will tolerate. Great attention should be given to the eradication of foci of infection, as the myocarditis and even the arterial spasm may readily be due to toxic products. In this connection it cannot be too strongly emphasized that tobacco should be eliminated. It is not sufficient merely to rest for six weeks and then permit patients to go about their business as cured, for such is not the case. After the initial period of rest they should be permitted to be up for only a few hours a day, and it is wise to insist that business be pursued only during the morning hours, and that from an hour to two hours be spent every afternoon at complete rest.

Where general arteriosclerosis, with hypertension and hypertrophy of the heart are in evidence, I feel that, beside the measures just advocated, a course of Naudheim baths, which can readily be given at home, is of distinct benefit; perhaps of even more value than the Naudheim, especially when hypertension is marked, is the twenty minutes hot bath followed by rest of at least an hour or two. This reduces high blood pressure in quite a remarkable manner, and often brings about relief from all symptoms dependent upon it. In the course of time, and provided no attacks occur, cases with this type of angina may be allowed limited exercise of a mild nature, such as walking or golf, provided this exercise is taken on level ground, and is unaccompanied by sudden exertion

or undue excitement. It is unnecessary to say that heavy meals are to be strictly avoided and the patient should eat small amounts at frequent intervals. Alcohol need not be absolutely interdicted, particularly if the patient has been in the habit of using it. Whiskey, well diluted with water, or light wine, may even be of benefit. The use of digitalis is certainly not to be recommended in the majority of cases. My own experience is that it usually does more harm than good, but it must clearly be realized that this question is an individual one and can only be decided on the merits of the particular case under consideration. If it is believed that the angina is due to muscle failure rather than coronary disease, digitalis may be indicated. Where coronary disease is present, however, (and it is present in the vast majority of cases) digitalis seems to do more harm than good. If there is evidence of accompanying failure of the right heart, then digitalis probably should be used, though here again the pain of angina usually disappears when frank heart failure sets in.

It is sometimes stated that this disease is nearly always due to a syphilitic infection and that it accompanies syphilitic disease of the aortic valves and the root of the aorta. Where syphilis is proved, anti-luetic treatment should, of course, be instituted, and this is best given by the rubbing of mercury, the injection of bismuth, and the administration of iodides by mouth. I believe that intravenous medication should never be used. In this connection, I believe that the role of syphilis in angina pectoris has been largely overestimated. I am of this opinion, because in the negro service at the Charity Hospital, I see a great number of cases with syphilitic heart disease, and particularly with disease of the aortic valves and the root of the aorta, (aortic regurgitation) yet angina pectoris is a great rarity. I feel then that before syphilis is to be consid-

ered a cause of angina pectoris, it must be clearly and unequivocally proved.

The treatment of the angina of decubitus does not materially differ from that of the angina of effort. Its presence merely emphasizes the necessity for greater diligence in the application of treatment. Coronary thrombosis, during the immediate attack is to be treated by the administration of large doses of morphine by needle. When the attack has subsided, rest in bed must be absolute and an ice cap continuously applied to the precordium. As these patients usually have a low blood pressure there is no necessity for bath, etc. Rest in bed must be maintained until all fever has disappeared and for a minimum period of six weeks. In these cases the advisability of the use of digitalis may tax our judgment to the utmost and no definite rules can be laid down. The question of sympathectomy is being more and more discussed in current medical literature. Levine and Newton writing in the *American Heart Journal* of Oct. 1925 conclude that some patients suffering from angina have been strikingly helped by cervical sympathectomy. They make a detailed report of seven patients who were selected for sympathectomy, all of whom are alive three months to two years following operation. Only three of these patients, however, were rendered absolutely free from anginal attacks. They point out that it is absolutely necessary that accurate diagnoses be made, and that cardiac infarction be not confounded with angina pectoris. Furthermore, the study of each patient should indicate that there has not been any congestive heart failure, that the musculature of the heart is satisfactory and, preferably, that there is no valvular disease. It has been contended that, as the operation suggested can only relieve the pain, and in no way cure the disease, it may do the patient more harm than good, as the pain is a protective process, warning the patient that he must rest. So far

as I know, this operation has not yet been performed in New Orleans.

PROGNOSIS.

*"1. By sudden death in the first seizure.

2. By sudden death or death from myocardial insufficiency after months or years of attacks.

3. By a period of attacks, followed by a long or short period of remission, then a recurrence of attacks, perhaps with sudden death.

4. By a period of attacks, followed by a long period of remission during which the patient dies from some other cause. These instances are spoken of as cures.

5. By an unusually severe seizure followed by death, not sudden, but after hours or days of agony, from a gradually failing heart. These attacks may be initial, or, as is more often the case, follow months or years of less severe attacks.

6. By an unusually severe but not fatal seizure, followed by a period of apparent recovery and months or years later by sudden death from rupture of the heart or gradual death due to advancing myocardial insufficiency."

It can be seen that the prognosis will rest largely upon the cause of the disease, which it is admitted, can only be determined approximately, even after the most thorough study, but, it is safe to say, that the majority of cases are of fairly long duration, and any of us who have practiced for a number of years can recall cases doomed to death years ago, today living in comfort and pursuing useful lives; on the other hand, it is an old clinical axiom that once a person has had true angina he will eventually die of that disease if he live long enough. Let me emphasize that angina is never cured, but is very often ameliorated and life prolonged by proper treatment and understanding.

*Quoted verbatim from Hamman, L.—Prognosis of Angina Pectoris. *Amer. Jour. Med. Sci.* 168, No. 6.

THE PRACTICAL MANAGEMENT OF HYPERTENSION.*

OTIS S. WARR, M. D.,
MEMPHIS, TENN.

Hypertension may be at once both a symptom and a disease. This discussion will be limited to that symptom-complex commonly known as benign or essential hypertension. This will, of course, preclude those cases of hypertension associated with renal insufficiency.

An intelligent treatment of any disease must be based on its known or its supposed cause. Therefore, we shall preface our remarks on the management of this condition with a brief summary of what is known regarding its etiology.

ETIOLOGY.

Heredity. The past few years have witnessed a renewed and an increasing interest in the study of the constitution of the patient. In no condition is there more abundant or more convincing evidence of the importance of heredity than in the one under discussion. No doubt illustrative cases have occurred in the practice of every physician present. Osler emphasized the importance of the kind of tubing with which we are born. He might have referred with the same appropriateness to the quality of the nervous system.

Age. Benign hypertension is pre-eminently a disease of mid-life and beyond. Yet it is surprising to note the number of reported cases occurring during adolescence and early adult life. Where routine examinations have been carried out among this group, as among college and high school students, one is struck with the high incidence of beginning hypertension. In passing we would suggest that an intensive study of this group of early cases would probably clear up much that is now obscure regarding the etiology of this disease.

Sex. The incidence is essentially the same for both sexes. There is evidence in-

dicating that it is more common in women around the menopause.

Occupation. It is generally believed that hypertension predominates among those whose occupation subjects them to an excess of nervous and mental strain. Our own observations lead us to believe that it is quite as common among those who do manual labor as among professional and business people.

Habits. From the data available we are forced to conclude that the use of coffee, tea, tobacco and alcohol have no important bearing on the incidence of the disease. However, there is no doubt that they tend to aggravate the condition once it is established, especially when used to excess.

Infections. The relation of focal infection to hypertension has not been definitely established. Is not there a tendency to attach too much importance to focal infection to the neglect of other causes? In our experience the blood pressure is seldom lowered by removal of foci of infection. However, it is desirable that infection be eliminated for the protection of the heart and kidneys.

Obesity. There is no longer any room to doubt the importance of over-weight as an etiological factor. Where any large group of cases have been studied especial emphasis has been placed on the large number of overweight. We shall speak of this again under the head of treatment.

MANAGEMENT.

Prophylaxis. With our present knowledge of the cause of hypertension what can be done to prevent it? If we recognize the predisposing causes and apply the principles of prevention, the incidence of the disease, we believe, can be materially reduced. We concede that heredity is a predisposing factor, yet how often do we impress this on the families of our hypertensive patients? Closely related to heredity is obesity. We cannot emphasize too much or too often the danger of overweight not only

*Read before the Winona District Medical Society, Winona, Miss., Dec. 7, 1926.

as predisposing to hypertension and other cardio-vascular diseases, but to hyperglycemia and diabetes, both of which, when present, greatly aggravate the hypertension.

Let us now see what can be done after the disease has been established. This discussion will be limited to those cases without myocardial insufficiency. As in all other diseases much depends on early recognition. Since hypertension is compatible with normal health for many years, our only chance of detecting it early is through periodic health examinations. I am persuaded that most of us are not urging the necessity of these examinations as we should. But can the laity be blamed for not applying for periodic health examinations when we doctors are not doing it? When we reflect that cardiovascular diseases constitute the chief cause of death among physicians, is it not time we were beginning to practice what we preach?

REST.

Rest is a *sine qua non* in any successful plan of treatment, but it must be defined in terms suitable to each individual case. Unfortunately the kind of rest often prescribed consigns the patient to a life of utter uselessness. The result is that many, recognizing the futility of such a plan, for economic reasons, become discouraged and lose interest in their treatment. In order to gain the co-operation of the patient it is important that we indicate a sympathetic understanding of his responsibilities. To one it might mean shorter business or working hours, while for another it might mean a complete change of occupation. The majority can be persuaded to spend more time in bed at night with an enormous saving to the heart. One or two hours rest in the middle of the day will also accomplish much. For the more advanced case the week end spent in bed is worth far more than the annual vacation. In prescribing rest it is very important to be specific in our instructions. If we give general directions they are likely to be interpreted as optional.

DIET.

Since the time when all cases of high blood pressure were grouped under the one head of chronic interstitial nephritis, it has been traditional to restrict protein. Such restriction has usually resolved itself into the elimination of meat, or if any meat were allowed it was in the form of white meat of chicken or fish, presumably because these were thought to contain less protein than the red meats. Now that we know, that in the absence of renal insufficiency, protein in normal quantities has no influence on the blood pressure there can be no excuse for such restriction. Furthermore, it is needless to point out that the mere elimination of meat of all kinds does not necessarily materially reduce the protein. Besides, the body requires a certain amount of protein to maintain a nitrogen equilibrium. And in this connection it would be well to mention that it requires more vegetable than animal protein to maintain this nitrogen balance. The minimum amount of protein needed when the individual is at rest is about two-thirds of a gram per kilo of body weight, and proportionately more when active.

Of greater importance than the amount of protein is the regulation of the total amount of food. As mentioned before, the majority of hypertension patients are overweight. Alvarez has recently shown that the blood pressure even in those with normal weight average 10 mm. higher than those under weight. Some one has aptly stated that one's waist line is in inverse proportion to the life line, that is, the longer the waist line the shorter the life line. Yet it is surprising to note the indifference toward obesity even among the medical profession!

Chlorides. Considerable has been written concerning the relation of salt to high blood pressure. The evidence is conflicting. The majority of observers are agreed that a moderate restriction of salt will not influence the blood pressure. No doubt many of the reported failures were due, as Allen

claims, to inadequate chloride reduction. He states that "no pressure is rightly called irreducible unless the daily chloride excretion has been reduced practically to zero." Moreover, a salt poor diet that is satisfying is not easy to arrange, and in our experience is well-nigh impossible except in an institution which commands the services of a competent dietitian.

Fluids. Too little attention is paid to the quantity of fluids taken. Most of us wait till edema appears before we begin to restrict the fluid intake. Yet there is ample experimental evidence showing that an excessive intake of water will markedly increase the blood pressure. It is not necessary to state that in order to restrict fluids we must first reduce the salt. For the average case a total of 1000 cc. to 1500 cc. in twenty-four hours is ample.

DRUGS.

In this discussion we shall not attempt to mention all the drugs which have been used in the treatment of hypertension but will confine our remarks to a few of those which have been used most effectively. Before attempting to reduce the pressure by the use of drugs it would be well to remember that long-standing cases develop an optimum pressure which must mean that the hypertension is in a measure compensatory.

Iodides. The use of iodides, except when there is an associated luetic infection, is founded on tradition rather than scientific fact. I confess to having prescribed them but if the blood pressure was ever affected I failed to observe it. Allen claims that they not only are of no benefit but are potentially harmful due to their possible interchange with chlorides.

Nitrites. Clinical experience has definitely established the value of the nitrites. The action of few drugs is more certain or more prompt than the reduction of blood pressure by an adequate dose of nitro-glycerine either by mouth or hypodermically. But the effect is evanescent

and we would suggest that not infrequently failure to reduce blood pressure is due either to inadequate or too infrequent dosage. Sodium nitrite is more lasting in its effect. But we call attention to the fact that this drug soon becomes inert when prescribed in solution. Erythrol tetranitrate is one of the most dependable vasodilators but it is not unusual to find a patient who cannot take it on account of severe headaches. Amyl nitrite is indispensable as an emergency measure.

Chloral hydrate. We have found chloral hydrate very valuable especially in those cases complaining of excessive nervousness and insomnia. Whether the reduction in pressure is due to direct vasodilation or merely through its sedative action I do not know. Of course, it must be administered with much caution because of the danger of habit formation. Luminal and barbital have been found useful in this type of case.

Purgative. Any purgative will reduce blood pressure temporarily, and the more drastic the greater the reduction. This has led to the popular notion that constipation is a cause of hypertension. Alvarez and his associates have recently published an extensive study of the relation of constipation and hypertension, and they came to the conclusion that constipation has absolutely no effect on blood pressure. Therefore, frequent purgation, except in the presence of edema, is to be condemned. We would caution against the prolonged use of salines.

Liver extracts. Any discussion of the treatment of hypertension would be incomplete without mention of the use of organ extracts, especially certain liver extracts. Again the evidence is too conflicting to warrant any final conclusions. A discussion of this evidence would be beyond the scope of this paper.

PHYSIOTHERAPY.

As a profession we have been slow to acknowledge the value of physiotherapy and as a result it has been exploited by

the charlatans and irregular practitioners. The enthusiasm which is being aroused will likely cause the pendulum to swing to the other extreme. The value of hydrotherapy has long been established as a safe means of reducing blood pressure. The Nauheim (artificial) bath is very helpful especially in the case that fails to respond to the usual measures. It is to be regretted that more of our hospitals are not equipped to give these baths.

Since the close of the world war there has been a steadily increasing interest in electrotherapy of all kinds. As a valuable aid in the treatment of hypertension, high frequency electricity has passed the experimental stage. Sir Clifford Allbut in his last work said "d'Arsonvalization is the most valuable immediate aid we possess for hyperpiesia." Perhaps the greatest danger from high frequency lies in its indiscriminate use. However, it should be said that it possesses less potential danger than many of the drugs which are so freely used.

PSYCHOTHERAPY.

Before deciding on the plan of management we would urge a comprehensive study of the individual. An insight into the personality of the patient is often more important than an exact knowledge of his blood pressure. With great painstaking we note all his previous illnesses and at the same time neglect to inquire into his past life with reference to the psychical influences to which he has been subjected. What is the nature of the environment in which he lives? Does his present occupation subject him to an excess of mental and nervous strain? What about the successes and failures through which he has passed to reach his present position? Is his home life a happy one? Is his income commensurate with his responsibilities? There are times when ambition with its associated worry and hurry is more deadly than chronic infection. It is just as important to know about these things as to know what he eats.

Many of us are in the habit of thinking of psychotherapy as something belonging to the neurologist or psychiatrist and accordingly entirely foreign to the general practitioner. Yet every successful physician employs suggestion. There are few diseases where psychotherapy can be used to a better advantage than in the one under discussion. The worry and apprehension of some of these patients is distressing and without repeated reassurance no plan of management will succeed. In this connection we would mention the danger of too frequent estimation of the pressure. It is also important to emphasize to the patient that the blood pressure is not constant and is subject to wide variation, consequently the reading at any one time does not mean much.

Finally, in considering any plan of treatment, let us not lose sight of the fact that we are dealing, in the light of our present knowledge, with an incurable disease. Our duty then is to teach these patients how best to live with it. Therefore, the plan among other things must take into consideration the patient's economic problem. Failure to do this often results in his being advised to do what he knows is impossible for him and being discouraged, he makes no effort to follow any part of the treatment.

20 SOUTH DUNLAP ST.

MEDICINE IN THE TALMUD.*

MENDEL SILBER, Ph. D., M. D.,
NEW ORLEANS.

The modern doctor who is prone to be provoked by the thousands and tens of thousands who flock to faith-healing and all sorts of quackery, because of the apparently slow progress of medicine might find consolation and compensation in the knowledge that the Rabbis of the Talmud cultivated the art of medicine (it could hardly be called a science in those days)

Address delivered before the Orleans Parish Medical Society, March 14th, 1927.

and devoted themselves to it with surprisingly great zeal and skill. To appreciate fully, however, the importance of the medicine in the Talmud, the date and the character of the Talmud should be borne in mind. To begin with, it contains no special treatise on medicine. Whatever medicine it contains is merely incidental to the discussion of certain laws, rites and religious ceremonies which were carried on by the Rabbis in their effort to interpret the Bible correctly and to apply its teachings to the needs of the times. It may be briefly characterized as a unique and stupendous work in which a whole people (the Jews) deposited the record of their civilization as it existed in Judea and Babylonia from the fourth century before the present era to the sixth century of the present era. This means, then, that the date of its composition is from the fourth century before to the sixth century of the present era. I am emphasizing the date of its composition, because I consider it significant for the purpose of comparison and contrast. Its significance lies in the fact that it furnishes us certain valuable landmarks. It commences at the time when Greece lays the first foundation for the structure of modern medical science through Hippocrates, the "*divinus pater medicinae*"; it is contemporaneous with the time when medicine consisted of mystery and magic among most of the nations, when it was an object of contempt in the Roman Empire, where it was regarded as unworthy of the occupation of a free man, and it antedates Galen and Soranus by more than five centuries.

Yet, here are some of the surprising facts: The Rabbis hold the physician in the highest respect and consider his services so indispensable to the community that they prohibit living in a city where there is no physician. They carry on their medical studies, not theoretically, but through observations of clinical reactions, through experimentation and autopsies. One Rabbi, Jose ben Chalafta by name, was

known as the "experimenter." To further the interests of medicine, autopsies could be ordered by a court of law, as could also exhuming of a body, while quackery was prevented by the system of licensing physicians.

The familiarity of the Rabbis with anatomy, physiology, pathology, and surgery is most surprising. Their descriptions of the bones, muscles, tendons, the respiratory and generative organs, the heart, the blood vessels, and even the nervous system, in many instances lack only the modern nomenclature to be up-to-date in their exactness. The number of bones in the human body is ascertained and every bone in the skeleton is identified. The various muscles are studied and their change of form when in motion is noted. A certain Rab Hisdai makes the remarkable observation that in the so-called Kosher animals, that is, those which chew the cud and have cloven hoofs, the *psoas* muscle has two accessory muscles with longitudinal and transverse fibres. The nature of the secretory glands, every one of which, they said, secretes a fluid peculiar to itself, was recognized by them two thousand years before Beaumont experimented on Alexis St. Martin. The real function of the stomach and the part which the intestines play in the digestion of food was ascertained by them twenty-one hundred years before Pavlov published his discoveries to the medical world. More than two thousand years before Morgagni, the father of modern pathologic-anatomical research, the Rabbis enumerate one hundred and forty pathological conditions. While Galen still considers the thoracic cavity as filled with air and thinks such a condition necessary for normal breathing, the Rabbis of the Talmud say that a pneumothorax is fatal. At a time when the function of the brain and that of the spinal cord were but imperfectly understood, the Talmud considers the brain, which it describes as having two linings, a tender (*pia mater*) and a tough (*dura mater*) as being the seat of the rea-

soning faculties, while upon the integrity of the spinal cord depends all the movements of the body. The heart, in which the auricles and ventricles are described, is the organ upon which the life of all other bodily organs depends; the liver is the laboratory for blood, the pancreas is an accessory of the liver, and respiration is compared to the process of burning, so that expired air is incapable of sustaining life. The difference between the peritoneum and the extra-peritoneum is noted, and, contrary to the current opinion of the time, the blood vessels were filled, not with air (pneuma) but with blood (dam). Moreover, the danger of eating meat or drinking milk of tubercular animals is nowhere mentioned in the Greek writings, but the Talmud fully recognizes it. It even differentiates between tubercular caverns and bronchiolectasis, something that is not to be found in all literature before, nor at the time of the Talmud.

As regards infectious and contagious diseases, we know, of course, that the Bible already contains quarantine laws. The Talmud extends these much further and prohibits even the drinking of water that has been standing uncovered, unless it is first boiled, and warns against the nearness of flies to open wounds because of the danger of infection. In fact, surprising as it may seem, the Rabbis say that the air is full of invisible, harmful creatures which would make life unbearable if we could only see them all. (If they had only called these "microbes" instead of "shedim"!)

Our embryologists might be especially interested to know that their specialty attained to a high degree of knowledge and familiarity on the part of the ancient Rabbis. Aba Saul, with whom medicine was merely an avocation, his vocation being that of a grave digger, described minutely a fetus at the end of the sixth week. Rabbi Samuel, on the other hand, says that it is impossible to determine the sex of an embryo before the end of the

fourth month, a theory which is held, I believe, by embryologists of our own time.

The high degree to which surgery had been developed by the Talmudic teachers, who guided the spirit of their people and guarded their health, may be seen both from the operations they performed and their *modus operandi*. They had specialists in this line who were known as "ummanim." The operating room is referred to as the "marble hall." A tunic was worn by the surgeon over his clothing; various instruments were used; the borders of old wounds were freshened up to effect a union, and, in major operations, an anesthetic (same *de-shinta*) was administered. Among the operations, dislocation of joints, fractures, amputations and trephining are frequently mentioned. Artificial teeth, made of hard wood, gold or silver, are also mentioned. The removal of the spleen, various forms of castration, intubation of the larynx and an operation for an imperforate anus in newborn are described. Cranial plates, uterine speculum, crutches and a variety of other orthopedic appliances were in use, and the Caesarean section was practiced.

That those Rabbis of old were thoroughly human, "even as you and I," may readily be inferred from the frequency with which they differed in their diagnosis of a given case and from the pertinacity with which they endeavored to prove the correctness of their respective opinions. One interesting instance of a difference of diagnosis is recorded in which a sheep dragged its hind legs. The malady had been differently diagnosed by different Rabbis. Rabina, however, contended that it was due to an injury or impairment of the spinal cord. The sheep was thereupon killed and an autopsy bore out the correctness of Rabina's diagnosis. This, by the way, is the first recorded case in which a diagnosis made upon a living object was verified upon autopsy of the same object.

All this may appear strange and surprising. What is most surprising, however, is that the Talmud formulates the principle that the symptom of any disease is merely the external manifestation of internal functional disturbances. This principle, which is today the prevailing teaching of pathology, is not even alluded to in the writings of Hippocrates and is only hinted at vaguely by Galen in his "De locis affectis."

In conclusion, it might be well to point out the fact also that the high regard which the Rabbis of the Talmud had for medicine and the high position which physicians occupied, did not make these insensible to their tremendous responsibilities and ethical obligations. The Talmud lays down the rule that "the service of a physician for which no fee is charged is not worth a fee." (This might profitably be printed in large type by modern doctors and hung in their waiting rooms.) Yet, a prayer, which one of the Talmudic doctors recited every morning before starting out on his round of duties, clearly indicates a deep sense of both humility and responsibility. The prayer, which has been preserved in the original, is as follows:

"All-kind! Thou has formed the body of man in full wisdom. Ten thousand times ten thousand tools Thou hast united within him, and these are unceasingly active to maintain the envelope of the immortal soul, this beautiful entirety, in harmony. Continually they are busy in complete order, agreement and accord. Whenever, however, this order is broken by the fragility of the matter and the untameness of the passions, the powers come into conflict with one another and the body falls into dust. Then Thou sendest man Thy merciful messengers, the diseases, and they tell him that danger is approaching, and they urge him to forfend it.

"Thine earth, Thy streams, Thy mountains Thou has blessed with such things as may bring remedy, and may mollify the pains of men and cure their ills.

"And Thou hast endowed man with wisdom so that he may relieve the body of ill, so that he may recognize order and disorder, so that he can discover the proportions of things and ascertain their functions and prepare against each evil that which may ameliorate or prevent it.

"Me also Thine eternal providence has chosen to watch over the life and health of Thy creatures. I am about to begin the exercise of my profession. Aid me, O All-kind One, in this great work, so that it may be of avail, for without Thine assistance nothing succeeds, not even the least.

"May the love of fellow-man and the love of my art ensoul me. May not thirst for gain nor craving for fame mingle in my service. For these are enemies of truth and charity, and they might mislead me and keep me from doing what I ought to do for the weal of my fellow-men.

"Preserve the strength of my body and of my soul, so that I might be unperturbably ready to help the rich and the poor, the good and the bad, the enemy and the friend. Let me see in the sick the man alone. Enlighten my understanding, that I may see what is before me and encompass it, and that I may surmise what is absent and detect what is hidden. Let my mind not sink, lest I fail to recognize what is visible and overrule it; lest, indeed, see what is not to be seen at all. For the limit in my art is lightly traced, and it comprises the health and life of men.

"May my mind be always on the alert. While I stand at the bedside let not alien things intervene to rob me of attentiveness, nor disturb me in my silent meditation, for great and holy are the searchings on which depend the weal and woe of Thy creatures.

"Grant that the sick have confidence in me and in my art, and that they heed my advice and orderings. Banish from their side all quacks and the host of counseling kindred, and of overwise nurses, for these

are cruel people, and pervert the best intentions and thwart those who are expert in the healing art, and they lead men to death.

"If wiser men wish to teach and correct me, may I follow them, and be grateful; for the compass of our art is large and wide. But if zealous fools upbraid me, then let the love of my art keep me strong, so that I may adhere to truth without regard to years and fame; for weakness and yielding would involve the pain and even the death of Thy creatures.

"Let me be patient and calm when older men of my profession, proud in the number of their years, crowd me out, or taunt me or offer jeeringly to better me. But let this, too, be for my improvement, for they know things that are forgotten to me; still let not their conceit grieve me. They are old, and old age is not master of the passions. I, too, hope to grow old upon the earth, before Thee, O All-good.

"Give me frugality beyond all, except in the great art. May never awaken in me the notion that I know enough, but give me strength and leisure and zeal to enlarge my knowledge and to attain ever to more. Our art is great, and the mind of man presses forward forever.

All-good! Thou hast chosen me, in Thy grace, to watch over the life and death of Thy creatures. I am about to go to my labor. Be with me in this great work, so that it may avail, for without Thy help nothing succeeds, not even the smallest."

DIATHERMY IN THE TREATMENT OF NEISSERIAN INFECTIONS OF WOMEN.*

H. W. E. WALTHER, M. D.,
NEW ORLEANS.

It is the opinion of many physicians that gonorrhea in the female is an incurable

condition. Just why so pernicious a belief has become inculcated into the minds of so many medical men, I am at loss to explain. It is true that many female patients with gonorrhea retain their infections over an indefinite period. This state of affairs is due largely to ineffectual treatment or no treatment at all. Certainly the methods of diagnosis and of treatment, of this wide-spread malady, have appreciably advanced and the indictment that Neisserian infections cannot be cured must be refuted. At least, the urologist cannot permit this charge to go without challenge.

It should be emphasized that the vaginal douche and the medicated tampon have had their day as therapeutic agents directed at destroying the gonococcus in the female genitalia. More potent measures are demanded if we are to effectually combat this disease.

Despite the commendable work the American Social Hygiene Association has been doing, the incidence of gonorrhea in women has not decreased. We see just as much of these infections today as we have ever seen. True their efforts are not altogether in vain. As I see it, a very real benefit of their educational propaganda accrues from the bringing of unfortunate girls and young wives to physicians sufficiently early to prevent, or at least to minimize, serious complications to the tubes and ovaries.

The early recognition and the prompt application of efficient therapeutic measures is unquestionably doing much to prevent the possible extension of the diplococcus of Neisser to the most vital structures woman can boast of. And in bringing the treatment up to a plane where satisfaction in clinical results are daily becoming more evident, the urologist has played no small part. Studies on the prostate gland and seminal vesicles in the male, and the role they play in perpetuating infections, has done much to stimulate similar investigations in the female.

*Read by invitation before the South Mississippi Medical Society, at Laurel, Miss., March 10, 1927.

The gland structures are ever the haven for gonococcal perpetuation. In women this holds with as much emphasis as in men. If we can totally destroy the gonococci in Bartholin's glands, in Skene's glands and in the glands of the cervical canal we can feel assured that a real step forward has been made in eradicating the disease. The methods that have been advanced for accomplishing these ends are too numerous to mention here. Suffice it to say that ultimately we have come to *heat* in some form as being the one dependable agent.

Diathermy has proven itself the most efficient means of applying heat within the body tissues. It is not only eminently effectual but also the most easily controlled form of heat therapy. The technique of applying this modality of high frequency current is exacting but, with patience, can be acquired by any physician willing to sacrifice sufficient time in order to familiarize himself with the rudiments of the procedure.

BARTHOLINITIS.

At the external genitals of the female we encounter first the glands of Bartholin or the vulvovaginal glands 'as they are more commonly called. Situated in the lower and posterior portion of the labia majora, extending posteriorly to the triangular ligament, the ducts of these glands empty on the inner aspect of the labia minora and are easily recognized in disease. In my cases 40 per cent of patients with gonorrhea have these glands infected. When the ducts of these glands become stenosed abscess formation supervenes.

It has been the common practice to excise these glands with their accompanying ducts. Such procedure exposes lymph channels which might disseminate the infection rather than arrest it. The advent of surgical diathermy is truly a boon in such conditions. By the insertion of a blunt-tipped needle electrode into the duct, both the duct and the gland can be sterilized in

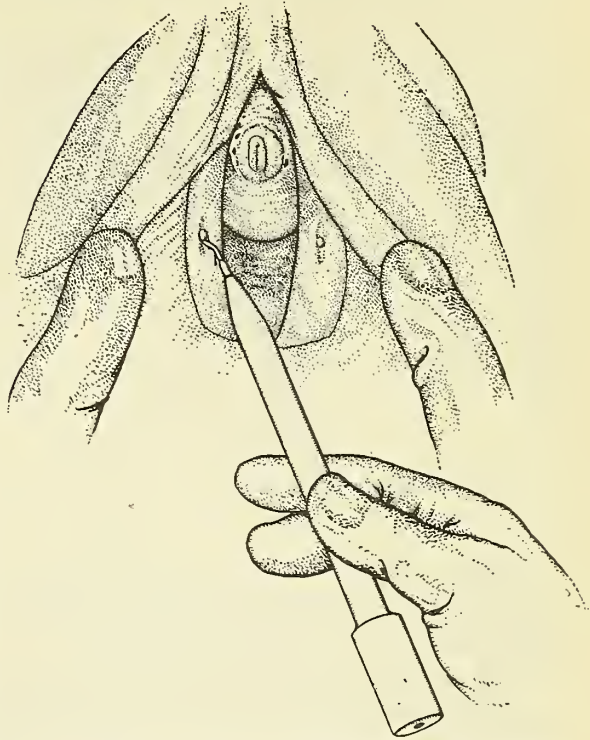


Fig. 1.—Diathermy applied to Bartholin gland infections.

a few seconds. The after care consists of topical applications of a 10 per cent mercurochrome solution.

SKENITIS.

Situated on the urethral floor laterally and just within the external meatus are found two gland openings first described by Skene which extend upwards along the submucosal structure for from 4 to 12 mm. ending in blind pouches. Skenitis has occurred in 90 per cent of the women I have treated for Neisserian infections. While these are not the only glands found in the female urethra, they are the most important. Infections persist longest in the anterior third of the female urethra and this is attributable largely to Skene's glands.

The diathermic needle, employed through the electric skeneoscope is the most valuable agent of therapy. Usually one gland is treated at the time because of reactionary edema which follows high frequency cauterization here. Within three days or a week the other gland is sterilized in like

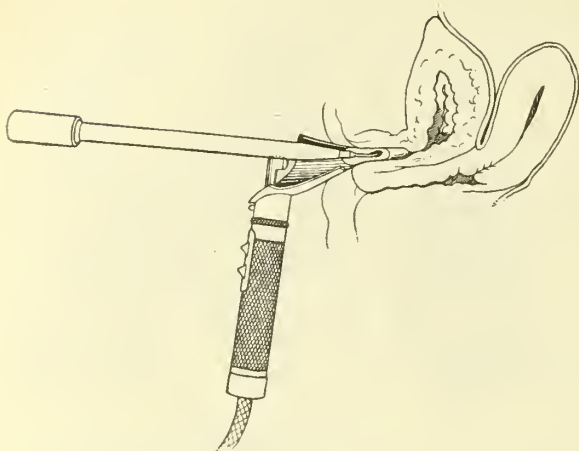


Fig. 2—Technique of treating Skene's gland by diathermy through electric skeneoscope.

fashion. By the aid of local anesthesia, the treatment is rendered painless. The follow-up care is with mercurochrome.

Urethral stricture is common in women with these ailments so that routine dilations, with silk bougies or steel sounds, occupy a most important role in winding-up the treatment to the urethra.

ENDOCERVICITIS.

Gonococcal infections of the cervix have attracted the attention of many investigators in gynecological urology if we can judge by the numerous articles which have appeared in the literature of the past few years. And although opinions differ as to the best mode of eradicating gonococci from the endocervical glands, all seem agreed that *heat* in some form offers the most lasting results.

When we consider that 80 per cent of all infected women contract endocervicitis and further when we remember that the glands are deeply situated in a structure that resists ordinary forms of therapy most obstinately it becomes necessary to adopt heroic measures. Sufficiently intense heat will kill organisms; that we know. We know too that by the aid of electrothermic high frequency we can obtain a high degree of heat, generated within the tissues, for a period sufficiently long to destroy bacteria and yet not injure the tissues treated.

Medical diathermy suggests itself as being eminently the agent of choice in handling these cases. Our favorable report on diathermy in endocervicitis, presented before the Southern Medical Association at Dallas in 1925, expresses our feeling at the present time. Since that tabulation of 38 cases, we have treated an additional series of 17 cases with the same encouraging results. Our technique differs from that of other workers in this field and I regret that time will not permit my going into the details essential for satisfactory results. To those sufficiently interested, I refer them to the original publication.

In concluding this most superficial survey of a very interesting topic, I would be remiss if I failed to emphasize some of the other factors that go towards making the handling of these cases more certain of success.

Physiological rest, a state most earnestly to be wished for in our patients but so seldom found practical, is really imperative for good results. Dancing, athletic sports, laborious house work and last, but by no means least, indulgence in sexual intercourse must be interdicted. Obviously, unless this later order is respected the results from the best possible treatment will be disappointing. Drinking of alcoholics is

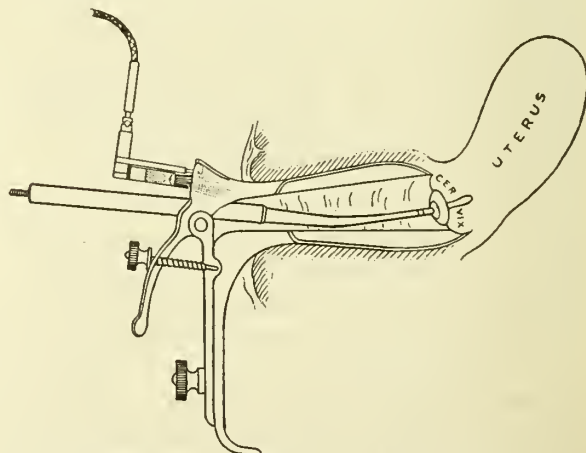


Fig. 3—Pessary electrode for treating endocervicitis by diathermy.

harmful to these patients for more reasons than one. The drinking liberally of water, proper attention to personal hygiene and the daily cleansing vaginal douche are to be encouraged. Vaccines and sera have proven a complete failure so far. Mercurochrome intravenously has helped me as an adjunct in certain refractive cases. Neosarsphenamin intravenously is employed in many instances with pleasing results. Just how either of these drugs help is not always clear. But they can do no harm,

when administered in moderate sized doses, and are worthy of a trial.

Gonorrhea in women is curable and the means at hand for dispatching these infections promptly is here. Physiotherapy in the form of diathermy, though in its infancy, will yet play an important part in the minimizing of this dreaded scourge which has, for centuries, blighted the physical well-being of so many unfortunate girls and women.

1326 Whitney-Central Building.

A NEW URETHRAL SOUND.

CASSIUS L. PEACOCK, M. D.,

NEW ORLEANS.

This sound was designed primarily to meet the many difficulties in passing instruments of this type in the aged. In prostatectomized patients it was found that sounds and bougies produced considerable trauma at the bladder neck and in the prostatic cavity. To overcome this we had made a short curved end with large body gradually tapering to the handle. This eliminated the injury to the bladder, gave us maximum dilatation where most desired and prevented the unnecessary stretching at the meatus. The patient so often

I do not wish to leave the impression that the sound described will replace the various models now in use but in certain pathological conditions, summarized below, it will be found far superior:

1. Prostatectomized patients;
2. Hypertrophy of prostate where operation is postponed;
3. Chronic posterior urethritis with tendency to stricture formation;
4. Massive cicatricial tissue formation of urethra following mutilation of urethrotome;
5. In female urethra; and,
6. Fistulous tracts.



Fig 1—Peacock sound.

complains of suffering from the use of ordinary sounds which at times prevent proper manipulation in the posterior urethra. It was found later that the sound was very useful in dilating post-operative stricture of urethra where dense scar tissue had formed. The short curve passed more easily and no trouble was experienced in guiding it through the tight urethra. This led to its general use in all cases where sounds were indicated and with very satisfactory results. In the female urethra it has proven as satisfactory as in the male.

The sound is twelve inches long, with small, flat handle, straight shaft and short curve tip or beak with rounded end. The tip measures 10 F. The curve is one-half inch long and gradually increases in size to the body which represents the size of sound, and is continuous for four inches. This tapers to the handle where it again measures 10 F. They are made of monal metal in sizes, 18-20-22-24-26-28 F., by I. L. Lyons & Co., Ltd., of New Orleans, and if desired can be obtained without curved tip.

1326 Whitney-Central Building.

TRANSACTIONS OF THE TOURO INFIRMARY STAFF

Clinical meeting of the Medical Staff, Touro Infirmary, March 9th, 8 P.M. Meeting called to order by Chairman, Dr. A. I. Weil.

Dr. Harold A. Bloom presenting a paper on Hypopituitarism.

Dr. Harold Bloom: I am showing this case tonight, not that it is unusual but because of the satisfactory results we have had in the treatment.

Patient: C. N. Age 12 years. Complaint: Obesity.

Family history: Parents living and well. One sister in good health.

Present illness: Patient was perfectly normal until he reached the age of 8 or 9 years when he began to complain of headaches. Mother thought it was eye trouble and consulted an oculist, but nothing was found. Tonsils were not suspected when headaches continued and an otolaryngologist consulted. Patient continued to have headaches and increase in weight, A. B. M. R. was run and doctor gave gland extract by needle for six months with no improvement. (This was thyroid extract it seems from mother's history.) Condition continued to increase in severity until the child was brought to Touro Clinic.

Physical examination: Reveals a very obese boy, (weight 168 lbs.) short in stature, with a small head, small hands, dull, apathetic, temperature 98. Skin: smooth, soft, pale, and thin; fingers wide at proximal ends and tapering—marked prominence of both breasts, absence of hair on body. Pelvis: broad and feminine in type, marked girdle obesity and marked development of fat over body, showing infantile sexual organs.

No evidence of faulty skeletal development.

Laboratory findings: Wassermann negative. B. M. R. minus 37. Sugar tolerance increased.

X-ray of skull: Lateral view of skull shows a huge sella turcica but no erosions of its floor or destruction of anterior or posterior clinoid processes. No other evidence of pathology.

X-ray of long bones negative.

Blood:	R. B. C.	5,125,000
	Hgb.	80%
	C. W.	0.78
	W. B. C.	7,250
	S.	24
	L.	3
	N.	62
	E.	1
	B.	0

Urine: Light straw color.
Acid reaction.
Sp. gravity 1016.
Albumin, slight trace.
Sugar, negative.
Indican negative.
Acetone negative.
Diacetic acid negative. Microscopic negative.
Eye grounds negative.

Diagnosis of hyperpituitarism made.

Treatment: Was put on tablets of pituitary gland September 11, 1926. Weight, 168 lbs.

Weights as follows:	9-11	Weight 168 lbs.
	9-21	" 155 lbs.
	10-2	" 151 lbs.
	10-16	" 148 ¼ lbs
	10-26	" 146 lbs.
	11-9	" 140 lbs.
	11-30	" 135 lbs.
	12-14	" 128 lbs.
	1-26-27	" 122 lbs.

On Jan. 25th, diet was increased on account of patient having been sick. Tablets were continued.

February 1st, weight 120 lbs.—tablets stopped—diet same.

February 8th, weight 120 lbs.—no tablets—diet increased.

February 22nd, weight 119½ lbs.

March 2nd tablets gave out for four days—weight 117½ lbs.

March 8th, weight 117½ lbs.

Measurements	Previous to treatment	Present
Breast		30 inches
Waist	40 inches	31 inches
Thigh	30 inches	23 inches
Height	62 inches	63 inches

Sugar tolerance is now normal.

Basal Metabolic Rate:	Minus 37	Minus 16
Blood pressure	100	116
	40	80

This boy's teacher said that while he was behind in his work because of loss of time on account of his attendance on the clinic, they had reason to believe he is very much more interested in his work. He used to sit in class without being interested at all. (Patient shown.)

Dr. A. B. Pitkin: (discussing Dr. Bloom's case): This case is very interest-

ing because of the satisfactory result obtained; clinically, I do not think that it suggests one of pituitary deficiency. The patient had been on thyroid medication, previous to being seen by Dr. Bloom, without apparent result. During the course of treatment by Dr. Bloom he was given only pituitary medication. The loss of weight, diminishing of special fat deposits, and increase in height appear interesting. But the lack of sexual development and lack of hair appear to be normal at this age; as well as the increase in height noted in the length of time he has been observed. He has been on a diet which might account for the loss of weight. My experience with cases of marked dyspituitarism is that they were not benefited by pituitary medication by mouth. Dr. Barker demonstrated that the control of diabetes insipides, with pituitary substance could only be gotten when given hypodermically. When an interne here in 1920, I saw the same thing well demonstrated with a case which had been worked up thoroughly at Mayos. Again, this case does not present the slightest suggestion of prognathism nor has he spatula-like hands; the X-ray study of the bones was normal. I have found in basal metabolism work that when a checked reading proves to be minus 20% or lower, deficient thyroid secretion is the main factor in the case. Cases labeled "pituitary dyscrasia" in the main have shown a basal metabolic rate average of minus 12%. However, results count and the proof of the pudding is in the eating and Dr. Bloom is to be congratulated.

Dr. Von Meysenbug: I would like to ask Dr. Bloom if he made any changes in this little fellow's diet?

Dr. Bloom (answering Dr. Von Meysenbug's question): He lost weight so that we increased it. He had a tremendous appetite when he first came. No changes in the constituents of the diet.

Dr. Bloom: It is true that according to the X-ray, no skeletal changes were found.

He had girdle obesity. It was really because of his infantile sexual organs that he was brought to me. I can stop the gland extract and leave the diet as it is and he will gain. About his sexual infantilism, he is just 12 years old and I do not expect to develop hair on his body yet. His sexual organs are larger than when he came.

Drs. Randolph Lyons and Urban Maes: Hypernephroma E. 685—45 E-22. Mr. S. P.

Dr. Lyons: This case, a man, age 65 years, admitted 1/26/27 and discharged 2/4/27, is, I think, of particular interest from my point of view because of the diagnosis. That was my chief interest in the case. He does present, however, a good many points of interest to others in different lines. I think he was very interesting to the radiologist, the neurologist, and last, but not least, to the surgeon. I saw this patient on January 18th, 1927. He came to the office complaining of shortness of breath, palpitation and weakness. Most of the past history has very little to do with the present condition. He has always been in practically good health until ten years ago when he was told he had high blood pressure. At the same time he was told he had albumin and casts in the urine. The blood pressure varied from 200 to 165 diastolic. The urine has continuously shown traces of albumin and casts. In May, 1926, he had an attack of so-called grippe. It must have been a very complicated attack because he was sent to the hospital. He had chills and fever and the leucocyte count was practically normal, between 6000 and 9000. They thought he might have an abscess of his liver. Summary of the examinations made there was that he probably had grippe and while the examinations were being made, he had an uneventful convalescence.

When he came to my office on January 18th, I thought he was suffering from a myocardial condition. No edema, pulse rate rapid. He had been quite weak since another attack of grippe in December. The difficulty in diagnosis in this case came from the fact that he was an unusually large man and had an unusually large chest and abdomen. When I saw him in the office, I felt a mass which I thought was an enlarged liver. Blood pressure at that time was $\frac{170}{90}$. The heart was enlarged

somewhat to the left but seemed to be pushed up by enormous gas bubble in the stomach. He had high blood pressure for a good many years. I put him to bed for 3 or 4 days. Under some purgation and rest, the pulse rate came down and then I made out a very large mass in the right flank, down almost to the pelvis, but it did not extend beyond the median line. Another thing noticeable

was the fact that between this mass and the costal margin I could feel what I thought was the transverse colon. On making him stand up the mass protruded out to the right, a fact which he himself noted. He was running a slight temperature. Stools negative for amœba. We brought him to Touro on January 22nd for further examination. We tried to rule out liver and to do that we had a blood chemistry made which was normal except for high uric acid. Liver function tests were normal and Ehrlich's aldehyde test of the urine negative. We then had some x-rays taken and the x-ray did not show the liver shadow to be enlarged upward and it showed the presence of the transverse colon in its normal position. At this time, I asked Dr. Maes to see the patient and see what he thought of this mass. He was inclined to think that the mass was a liver abscess and on that basis, aspirated it several times without finding any pus. I am going to ask Dr. Reed to tell us about the cystoscopic examinations and pyelograms. I might add that the urological examinations showed the mass to be a large kidney tumor. The apparent difficulty in diagnosing an enormous growth whether kidney or liver was due to the enormous size of the abdomen.

Dr. Reed: Almost all cases of renal tumors give some signs long before the case comes to the surgeon, in that they show blood in the urine—either in microscopic or macroscopic quantities long before any other symptoms occur. This particular case was one of the biggest tumors I ever saw. It weighed 4½ lbs. The first pyelogram that was made was unsatisfactory, due to the fact that a very weak solution of sodium iodide was used in order to avoid any more reaction than necessary. The second pyelogram was made with a much stronger solution and gave us a picture that resembled a long tree with several branches attached to it. I have had the pleasure of studying, recently, three cases of renal tumor, all of which showed definite urinary findings, but had little or no other symptoms such as pains, loss of weight, fever, etc. It was only because of the microscopic or macroscopic blood that was found in the urine that they were sent to me for examination. Any individual showing blood in the urine at the age of 35 or 40 years should by all means be thoroughly studied before a diagnosis is made.

Dr. Lanford: The histology of neoplasms that spring from the adrenal organ varies considerably depending on the particular portion of the structure that the parent cell arose from. They vary too in their invasive characteristics and their probability of metastasizing. This particular neoplasm was a low grade form of malignancy. The cells apparently came from the reticular zone of the adrenals and were practically all adult in character. The histology is borne out by the findings at operation in that the tumor was not invasive, it being apparently growing almost entirely in an expansile manner such as benign neoplasms grow. It is difficult too to say how long the neoplasm was present before it was discovered but, due to the extensiveness, it had no doubt been present for a good long time. That fact also speaks for a low grade form of malignancy, as had it been rapidly growing, it would have shown more infiltrative characteristics and no doubt secondary growths elsewhere would have made their appearance.

Dr. Levin: Dr. Reed did not mention whether the phthalein test from each kidney would reveal disease of the kidney before operation.

Dr. Reed: There is always a marked diminution of phthalein excretion from the kidney involved. The amount depends on the actual involvement of the kidney.

Dr. Lyons: We did not have a report on phthalein. The report that we did have was that it was very little. Another striking thing was the relatively few symptoms with the enormous tumor. We might compare it with a large woman carrying a baby without symptoms.

Dr. Rudolph Matas presented notes on seven cases of giant elephantiasic pendulous tumors of mixed types, chiefly lymphoneurolipomatous fibromata of Recklinghausen's disease, to accompany a lantern slide exhibit showing the peculiarities of the individual cases.

Miss V. T., Marrero, La. (145-C-388 L-720). Native of Louisiana, age 38 years, applied to the Touro Out-door Clinic for relief of an enormous tumor which had made its appearance as a noticeable growth on the back and lower dorsal region, when the patient was six years old. It probably had appeared before this, but no serious attention had been given it. (The growth and many smaller tumors [mollusca] became more numerous and larger as she grew older.) When she was ten years old, the mollusca, or tumors, had spread like an eruption over her entire body, except the face, hands and arms. These tumors varied in size from a small dried grape, or raisin, to that of a small tangerine orange. The majority of these remained stationary, but the growth in the back grew larger continuously, until it hung from her back as an immense bag of flesh, which rolled over her buttocks and thighs, and stretched below her knees and ankles when she stood up. The tumor was held to the body by a very broad pedicle which involved the entire lumbar region and stretched from it to the thorax and epigastrium in front, where it merged with a large area of dark, heavily pigmented skin which contracted into numerous rugae when allowed to relax.

The very traction of the growth, as it hung from her back when standing, seemed to increase the size through a secondary oedema. It gradually impeded her locomotion. In spite of which she continued to work as a laborer, until the last two years, when the drag of the mass was so great that she had to go to bed, utterly disabled and weakened by demands that the tumor was making upon her nutrition and general health. It was in this condition that her people decided, upon advice of the family physician, to bring her to Touro Infirmary with the hope that something could be done for her relief.

She was admitted to the Surgical Free Ward, Touro Infirmary, on January 27th, 1927, and was kept under observation from that day to February 18th, in all twenty-three days, during which time she was kept in bed, with the hope that by pre-operative general and tonic treatment, she would be prepared for the formidable operation that would be required to free her from the burden of this giant mass. It was with much dread and misgiving as to the outcome, that final preparations (strychnine, digitalis and stimulating liquids) were made on February 16th and 17th for the operation which was performed at 11 A. M. on Feb. 18th.

On the day before the operation the patient weighed 170½ lbs.—the tumor was estimated to weigh 60 pounds, and after deducting the tumor weight, her weight would approximate 110½ lbs.

Her blood pressure at this time registered between 126/74 and 127/77—pulse 80-90 and respiration 20.

Bloods—Reds 4,455,000	Whites 5,750
Hemoglobin 65%	Eosinophiles 5%
Small mono 27%	Large Mono 3%
Urine, acid—1026 and negative for all abnormalities.	

Only a low hemoglobin and moderate red count to contra-indicate the operation. The pre-operative problem in this case, was how to avoid hemorrhage and prevent shock. To obtain prophylactic hemostasis I had planned to have made two large pairs of long extemporized metal clamps which would compress the broad pedicle, and permit a sharp amputing knife to sever the pedicle between them. This plan was not deemed feasible, owing to the great irregularity and vast breadth of the fold of skin that attached the tumor to the body. Instead of these giant clamps, it was decided to transfix the base of the pedicle with two strong Wyeth pins, and to constrict the neck of the tumor with a tourniquet made of three and a half yards of long rubber tubing. Before constricting the pedicle, it was also decided to drain the tumor of the large amount of blood, which it no doubt contained, by suspending it over patient's back with a pair of ice tongs, suspended from a pulley in the ceiling. After draining it of blood, while under the anesthetic, and helping to exsanguinate it by manual compression and massage, the constrictor was to be applied.

This procedure was carried into effect immediately after the patient had been anesthetized with ethylene-oxygen gas by Dr. Baker. The tumor was hooked to the tongs and suspended high above the level of the patient while she was lying in the left lateral decubitus.

After waiting about fifteen minutes, during which antiseptic preparation of the skin was made, the pedicle was transfixed with the Wyeth pins and the circular rubber constrictor tightly wound around the neck of the tumor, where it was held in place and prevented from slipping by the pins.

The immense pedicle was not cut across with an amputating knife and large scissors, leaving a cuff of skin about two and a half inches below the constrictor. While this division was proceeding, the large veins, arteries and lymphatics which were involved at every step, were secured with prophylactic clamps. But, even with all these precautions, the amount of clear serum, or lymph, that poured out of the divided tissues was extraordinary. It was a real lymphatic hemorrhage; the clear lymph pouring out of the cut surfaces in streams, that must have amounted to several pints.

After this tumor had been detached, all the veins held in the hemostate were immediately ligated—fully fifty to sixty (50-60) ligatures being required to secure the clamped veins. The clamps on the tumor side were allowed to remain on the tumor. Having apparently secured all the vessels that were recognizable, the tourniquet was gradually removed and a number of bleeding points, not previously recognized, were secured. Finally, after the pins were removed and the full extent of the divided tumor attachment was exposed, it was found that the exposed area left by the amputation, extended from the level of the 10th rib posteriorly, downward and obliquely, forwards over the spine to the 9th dorsal cartilage, in front and middle of the right lumbar region, to the mid-right iliac crest.

The incisional wound was fully twenty-eight (28) inches in length. Fortunately, the skin edges were easily approximated, owing to atrophy and elasticity of the skin on the abdominal side which formed dermolytic and relaxed folds.

Before closing the incision, a large, hard, encysted fibromatous mass which extended from the lower angle of the left scapula to the level of the pedicle, was dissected and partly enucleated out of its bed in the aponeurosis of the deep dorsal muscles. This mass seemed to be made of solid, hard and fibrous tissues, corresponding in description of these secondary growths to the acrochondroma, mentioned by some authors (Taylor, Jnl. Cutn. Disease, 1887).

Notwithstanding its immense size, no drainage was left in the wound, excepting potential drainage obtained by long interspaces allowed between sutures which were considered sufficient to allow the serum to escape.

It is interesting to note, that the patient's condition gave no cause for alarm during the operation, until the pedicle was cut and the mass was severed from the body. Up to this stage, the anesthetist's chart showed that the pulse and respiration were regular and not materially affected by the manoeuvre, but when the tourniquet was removed, the pulse immediately climbed to 160 and the blood pressure fell to $\frac{130}{90}$ to $\frac{80}{?}$.

This contingency had been feared and before this had occurred, the interne had the cannula inserted in the left basilic vein and a hot 5% glucose intravenous infusion was begun. This immediately improved the situation—the pulse rate falling at once and the blood pressure rising sufficiently to allow the operation to continue without interruption to its final completion. The patient was then well wrapped up and warmed, and sent to the ward in very fair condition.

After her return to the ward, the intravenous infusion was continued as a drip to which adrenalin solution was added, at regular intervals with digalen and strychnine. Though the usual morphia hypodermic had been given as a preliminary, before the operation had begun, it was again given after the patient had been returned to bed. She was also given fluids quite freely by mouth as there was little nausea or vomiting.

The patient was quiet and apparently comfortable until 2:30 P. M. She slept most of the time, but spoke intelligently at intervals. Under the influence of the drip, digalen and laparotomy tablet, with warming of the body, the pulse fell to 120, respiration 22, and was at this level until 2:30 P. M., when a sudden decided change occurred. The pulse rose then to 152, respiration 24 plus, and then the pressure fell, so that the pulse was scarcely perceptible. The infusion was increased 2,000 c.cs. and more adenalin and morphia given, the patient immediately began to rally.

At 4 P. M. (four hours after the return of the patient to the ward) the pulse had gone down to 128, respiration 20—four ounces of urine was voided, and the skin was warm and moist. The pulse was of good volume and the patient rested quietly and comfortably. At 5 P. M. the cannula became obstructed and with the stoppage of the drip, the pulse again became very rapid and lost all volume, until it could scarcely be counted. The cannula was now reintroduced by an interne and with the return of the drip, the patient's general condition again improved.

At 7 P. M. she was comfortable, resting quietly, pulse 124, respiration 19. At 9:45 P. M. the cannula again became blocked and the pulse immediately weakened and did not improve until Dr. Landry reintroduced it in another vein—again the patient rallied. She continued to improve during the night and was progressing encouragingly, until 1 a. m. when she became restless and weak, extremities cold, temperature low.

The drip was concerted into a steady, full, infusion with adrenalin and by 6 A. M. the pulse was 120 and of fair volume, but the face and extremities were cold. The patient now refused to take fluid by mouth, complaining of nausea, but did not vomit. The drainage from the wound was sufficient to stain the dressings, but was chiefly sero-sanguinous and not bloody enough to cause her depression.

At 7 A. M. the pulse was 124, respiration 16, but the patient was very restless, and complained of a general uncontrollable itching which was attributed to morphia. As she refused to drink, a duodenal tube was inserted through the nose, and fluid given by this route. The tube was

passed with great difficulty caused by the presence of a large pharyngeal tonsil which obstructed the naso-pharynx.

At 10:30 A. M. the cannula pulled out of the arm and the vein for the third time became blocked by thrombus. Preparation for transfusion had been made and several members of the

family were typed, but all seemed more or less incompatible. The pulse became faintly perceptible. The fluids introduced through the stomach tube were being absorbed, when the respiration became labored. By 8 P. M. rales and gurgling in the trachea were heard and it was evident that the patient had developed an oedema of the lungs and at 8:30 p. m. she ceased to breathe.

THE EYES AND MOTION PICTURES.

"Motion picture theatres are too dark," Guy A. Henry, of New York, General-Director of the Eye Sight Conservation Council of America, declared in a statement made public yesterday. "People are unnecessarily subjected to eye strain," he asserted, "in poorly lighted auditoriums."

Investigations reveal that managers of motion picture theatres have no method of determining the effectiveness of the lighting, said Mr. Henry, who urged the framing of a special code of illumination for motion picture auditoriums, following a scientific study of the problem.

"The human eye does not function to its best advantage in the dark or in looking at a fairly well illuminated object when the eye itself is surrounded by darkness," according to Mr. Henry. "There should prevail as high a degree of general illumination as may be consistent with securing clear and easy vision of the picture.

"Too low illumination causes dilation of the pupil to an abnormal degree and provides a correal area which does not permit of focal accuracy and which tends to distortion of outline. To partially overcome this, segmental action of the ciliary muscle governing the focusing of the eye is induced. Such muscular action can be attained only by great effort.

"There is also strain of the iris muscle resulting from the prolonged dilation of the pupil and another objection is that the varying intensity of the light reflected from the screen requires constant iris action more difficult of accomplishment than under normal dilation.

"There is constant conflict between the extreme darkness surrounding the eye and the light reflected from the screen. Under such a condition the eye is not only more susceptible to the natural varying intensity of the light from the screen, but the adaptability of the eye is lowered and the slightest flicker or movement is more noticeable and detrimental.

"The illumination of the auditorium should be gradually reduced from the rear to the front and

all light sources so modified as to prevent glare, especially those which may fall within the spectator's range of vision. A faulty shade leaking a little light in the orchestra or over the organ will be a source of annoying glare for even though the intensity of the reflected light from the screen may be much greater, the direct light by reason of the dark background will by contrast be blinding in effect and harmful to the eye.

"The decorative scheme of the auditorium naturally effects the general illumination. Gilt and silver even in subdued light may produce annoying reflections and, in some instances, these are responsible for an unfortunately low degree of lighting.

"At intermissions or changes in program when the general illumination is turned on the current should be carefully gauged and the auditorium gradually brought from a state of semi-darkness to full light. A sudden or too rapid turning on of light is not only irritating but may be decidedly harmful to the eyes.

"Investigations reveal that managers of motion pictures have no scientific way of determining whether or not the general illumination of the auditorium is what it should be and, in fact, this is governed by the judgment of the management which may take into consideration certain factors and entirely disregard others of equal or greater importance.

"A scientific study should be made of this problem and standards of illumination established for the guidance of the managers so that they may be sure that a matter so important as the general illumination of the theatre during the showing of the picture is scientifically correct and that the eyes of their patrons are not being subjected to strain.

"In fact there should be developed a special code of illumination for motion picture auditoriums which will cover a field, which is too important to be left to the judgment of individuals."

NEW ORLEANS Medical and Surgical Journal

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THE JOURNAL does not hold itself responsible for statements made by any contributor.

Manuscripts should be addressed to the Editor, 1326 Whitney-Central Bldg., New Orleans, La.

LOUISIANA MEDICAL RELIEF IN DISASTER.

It is with a great deal of feeling and regret that we are presently recording throughout the Mississippi Valley the greatest flood of its kind in the history of our country. This has resulted in a great devastation of our State, calling upon our citizens for heroism and sacrifices unprecedented.

Following the plan of the American Medical Association for the organization of the medical profession for medical relief in disaster, the House of Delegates of the Louisiana State Medical Society in their recent session affirmed their belief in this principle, and asked the various Parish Medical Societies throughout the State to

organize and be prepared for any emergency. This is very timely and is to be commended.

All classes of citizens have been made to feel the pangs of this disaster. The physicians of Louisiana as loyal citizens and in keeping with their professional obligations, have responded nobly to this test, thus maintaining the high reputation of the profession in the State of Louisiana.

While the response for medical aid and co-operation with allied medical organizations has been generous by necessity of the acute conditions, there will be a great deal of work to be accomplished after the waters have subsided that will keep busy our public health activities, boards of health and etc. This will be essential to keep out epidemics which if unabated would further add to the depopulation of our State. It is therefore in keeping that our profession and our progressive physicians of the State lend their co-operation, support and activities to all medical organizations and activities looking toward the preservation of health and the prevention of epidemic diseases as a result of the stagnant flood waters and the concentration of people.

The rehabilitation of our State is going to be slow. This will take us into months of the summer. Precautions should be taken against those diseases which go hand in hand with bad drainage and polluted water, such as malaria, typhoid, dysentery, and various forms of gastro-enteric disorders. It is going to necessitate the close application and functioning of all of our health agencies in co-operation with the profession throughout the parishes to mediate against the losses through illness and disability. The medical profession will be called upon to continue their co-operation and assistance until all dangers are entirely removed.

In this regard it is noteworthy that the recent military experiences of many of our physicians in the Medical Reserve Corps of

the United States Army will be a valuable asset and serve as an aid in developing and establishing proper medical supervision throughout our State.

DR. FREDERICK WILLIAM PARHAM.

Dr. Frederick William Parham was born at New Orleans, March 20th, 1856. He was the son of John Greenway Parham and Mary E. Blunt. He was a graduate of the Randolph Macon College of Virginia and received his medical education at the University of Louisiana, now Tulane University, having done Post-Graduate work in Philadelphia and having supplemented this with work abroad in European clinics, where he studied on such men as Czerny, Bramann, Hahn and Ewald. In 1887 he was admitted by competitive examination to the Charity Hospital, where he served as Interne with distinction for two years, notably during the malignant epidemic of yellow fever of 1878. From that time until his death his interest in the Charity Hospital never faltered and whenever he felt it necessary he worked untiringly for the betterment of its administration. This active interest throughout a period of fifty years was invaluable to the Institution.

Dr. Parham was Assistant House Surgeon of the Charity Hospital from 1885 to 1887, and one of his brilliant accomplishments was the inauguration and execution of a system of antiseptic and aseptic methods which practically eliminated the fearful mortality caused by puerperal fever in the maternity wards.

He recognized the great lessons of Pasteur and of Lister, and when the means were not available for carrying out the teachings of these men he installed in his ward at Charity Hospital his own sterilizer and carried out in the same wards aseptic operations. It was through these demonstrations that he convinced the staff of the value of such aseptic procedure. It is hard to realize, in this aseptic age of surgery, that it ever required the efforts of great

leaders to prove to the community the worth of such teachings, but at that time one of the surgeons prominent in the medical profession is known to have said that he would have then practiced aseptic surgery, but it was too much trouble, showing that its value was not fully appreciated at the time of Dr. Parham's pioneer efforts.

Other pioneer work of this great surgeon was in chest surgery, he being one of the first in this country to attempt extensive work in malignant growths of the thoracic wall.

Dr. Parham was very active in organized medicine, having been President of the Southern Surgical and Gynecological Association, Vice-President of the American Surgical Association, President of the Louisiana State Medical Association, and President of the Orleans Parish Medical Society. One recent achievement of his was the organization of the Visiting Staff of the Charity Hospital of Louisiana. This was accomplished by him almost single handed; he realized the great value that would redound to the patients as well as to the administration of the Hospital by such organization. He served as President of the Staff for one year. He was a member of many societies, being a Fellow of the International Society of Surgery, of the American Surgical Association; of the American College of Surgeons, having been a member of the Board of Regents of that College from 1920 to 1925; member of the Southern Surgical and Gynecological Association, of the Louisiana State Medical Association, and of the Orleans Parish Medical Society. He held a commission as Major in the Reserve Corps of the United States Army and served as Chairman of the Medical Advisors of the Draft Board during the World War. Up to the time of his death he was Chief of one of the two surgical divisions of Touro Infirmary and Consulting Surgeon on the Staff of Charity Hospital. Dr. Parham was Dean of the first school for training nurses established in New Orleans.

He has contributed many original essays, observations and devices which have enriched the literature and won for him a national and international reputation. Among many notable contributions to the literature may be mentioned articles on "Resection of the Thoracic Wall for Tumor"; "Vesico Intestinal Fistulae"; "Operations for Inaccessible Vesico Vaginal Fistulae"; "Treatment of Hypospadias"; "Head Injuries Marked by Intracranial Tension"; "Some Practical Problems in Intestinal Obstruction"; and numerous other articles. He is internationally known for his original work in the surgery of bones, one of his latest contributions to this field being the Parham and Martin band, devised for the treatment of oblique fractures of bone.

As Professor of General and Abdominal Surgery in the Post Graduate School of Tulane University he was a recognized authority on surgery. It was to this university that he devoted much time and thought, having served as a member of the Board of Administrators from 1906 to 1914 and from 1925 until his death. His many years of service as Chairman of the Medical Advisory Committee of the Board stand pre-eminently as a model of conscientious and intelligent devotion to the highest interests of the School of Medicine and to the University. During his tenure of office many of the great reforms which have characterized the history of the School on medicine in later years have been effected. Recognizing "his services and achievements as a great and learned surgeon, as a medical leader, educator, administrator and public spirited and self-sacrificing citizen—and more particularly the example set by his personal character, his absolute honesty, his conscientiousness in the discharge of his professional and public duties his moral courage and his unapproachable integrity," — Tulane University of Louisiana conferred upon him the degree of Doctor of Laws in June, 1925.

He loved science, as in science could be found some relief for human suffering, and he directed his best efforts to the study of methods for its alleviation. In reviewing his life one is reminded of one of his addresses in which the following lines occur: 'For love is the thing that makes you care for the fate of this great round world. Ever'ything that exalts life, makes possible unselfish devotion, inspires to great heroism and wins the utmost triumphs of art, has love at its root. 'He loved his fellow men' is the greatest enconium that one could wish at the end of a long life."

He was a jealous of the good name of his profession. When he detected anything that challenged that good name, or the integrity of a fellow physician, he would combat it with boldness and with a vigor that derived its force from an impregnable rectitude. The entire life of this great surgeon has been "To strive, to seek, to find, and not to yield."

It is with deep regret that the *Journal* announces his death which occurred on May 6, 1927.

CORRESPONDENCE.

April 18, 1927.

Doctor H. W. E. Walther, Editor,
New Orleans Medical and Surgical Journal,
1551 Canal Street,
New Orleans, Louisiana.

My Dear Doctor Walther:

Would you mind stating in your publication that we should be glad to supply a copy of the "Preliminary Report of the Commission on Medical Education" to any of your readers who may be interested in the general questions of medical education and practice? We should be glad to supply these copies without charge, and anyone desiring a copy of the report can obtain it by addressing

Commission on Medical Education,
215 Whitney Avenue,
New Haven, Connecticut.

Sincerely yours,

W. C. RAPPEYE, M. D.

Lexington, Miss., 4/28/27.

The Editor, Medical and Surgical Journal,
New Orleans.

Dear Doctor:

Because of the rarity of the condition in this country, I am reporting a case of sclerema, or the scleremoedema of Saltman.

An infant negro male, in the third week, history of swelling beginning in feet four days ago, and extending up the limbs until the genitals as well as abdomen were involved.

On examination found well developed baby, practically unconscious, having refused food for

twelve hours; respirations superficial, skin dry and cool, temperature in rectum 94°. Rales throughout lungs. Skin oedematous and swollen from feet up, face slightly swollen, slight pitting, but soon disappeared, brownish colored spots on both feet, pupils contracted and would not react to light, kidneys and bowels both acting apparently normally.

From history of syphilitic history of father made diagnosis of sclerema, resulting from congenital syphilis. Made unfavorable prognosis, child died that night.

Yours fraternally,

R. M. STEPHENSON, M. D.

JUVENILE DELINQUENCY AND DEFECTIVE EYESIGHT.

Defective eyesight contributes to Juvenile delinquency, according to Guy A. Henry, General Director of the Eyesight Conservation Council of America, who in a statement today urges parents on Child Health Day, May 1st, to consider the vision of their girls and boys.

Child Health Day, general observance of which has been asked in proclamations by Mayors of cities and other officials throughout the country, should be made an event of moral and physical significance in every household where there are children, declared Mr. Henry, who is directing a nationwide campaign for better vision in education and industry.

Investigation by the Eye Sight Council, Mr. Henry asserted, has shown that "bad eyes make bad boys," and that the experience of Juvenile Courts prove that defective vision makes children truants. Each year more than 200,000 children come before these courts, and eye conservation in the home and in the school, according to Mr. Henry, should be employed as a factor in checking criminal tendencies.

"Juvenile Courts," Mr. Henry continued, "are finding that bad eyesight leads to inattention in school, to unfair competition, and to disrespect for authority. Bad eyes lead to truancy and the truant child is a criminal in embryo."

"Seventy-five per cent of all adult offenders start as criminals before they are twenty-one years old, and progress from petty to capital crimes is rapid. Parents must try to understand their children, for with understanding comes the explanation of wayward tendencies, which if uncorrected may develop unfortunate consequences even in the best of children.

"It has already been demonstrated that fully twenty-five per cent of the 24,000,000 school children of this country are suffering from manifest defective vision, and this situation is likely to grow worse if practical steps, with parents and teachers co-operating, are not taken. Much has been done by the Eye Sight Conservation Council in the schools of the country, and much more will be done in the future, but lasting results are impossible without the aid of the home.

"It seems evident, from a general review of the entire subject of eyesight conservation, that approximately twenty-five per cent of all school children in the United States are retarded in their studies and that fully one-third of the retardations are in all probability due to defective vision.

"If this is correct, there are at least 2,000,000 school children in the United States one or more grades behind in their studies because of defective vision. The annual loss of retardation due to this cause alone is about \$130,000,000.

"Child health—mental and physical—should be of paramount significance on May 1st."

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of May the Board of Directors has held one meeting and the Society two regular Scientific Meetings.

Miss M. L. Marshall, Assistant Librarian, has been sent to Washington to attend the Annual Convention of the Medical Library Association.

The books of the Society have been audited by Mr. L. L. Jarreau, public auditor, and this report is published in detail in this issue of the Journal.

In accordance with the plan of the American Medical Association for relief in disaster which was approved by us last spring, this Society following the request of the local Chapter of the American Red Cross through its Medical Chairman, Dr. Frank J. Chalaron, has formulated a complete plan of organization for medical relief in the Parish of Orleans and the adjacent Parish of Jefferson in case disaster were to befall during the prevailing flood condition.

The By-Laws have been completely revised and the changes in the Constitution have been voted upon. The revised copies of same will be sent to each member as soon as it is published in booklet form.

The Scientific Programs at the two regular Scientific Meetings are as follows:

May 9th.

"The Banana as a Food for Infants and Children"

By.....Dr. Ludo von Meysenbug

"Chronic Barbitol Poisoning"

By.....Dr. E. McC. Connely

Discussed by Dr. Walter J. Otis

"The Reduction of High Blood Pressure by a New, Original Method"

.....By Dr. Adolph Henriques

May 23rd.

"Extensive Colonic Polyposis with Report of Three Cases"

By.....Dr. A. L. Levin

Discussed by Dr. Sidney K. Simon

"Some Points in the Management of Labor"

By.....Dr. Elliott Kiblinger

"The Determination of Pathology in the Fallopian Tubes by the Injection of Lipiodol"

By.....Dr. Hilliard E. Miller and Dr. W. F. Henderson

We regret to report the death in the past month of Dr. F. W. Parham, Dr. P. B. McCutcheon and Dr. Florena G. Rich.

The following Doctors have been elected to membership: Active Member, Dr. Geo. L. Hardin; Associate Member, Dr. Hugo Popkin, and Interne Member, Dr. Wm. H. Roeling.

Dr. J. E. Doussan was reinstated to Active Membership.

The Membership of the Society to date is 487.

REPORT OF TREASURER.

Actual Book Balance 3/31/27	\$5,042.66
Receipts during April	925.79

	\$5,968.45
Expenditures	\$1,638.02

Actual Book Balance	\$4,330.43
Outstanding checks	388.00

	\$4,718.43
Receipts since Bank Balance	\$ 8.65

Bank Balance 4/28/27	\$4,509.78
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REPORT OF LIBRARIAN.

The reference work immediately preceding the State Meeting has caused the constant use of the Library during April. Four bibliographies have been prepared and added to our files on subjects as follows:

Dislocation of Carpal Bones (Semilunar) 1920-26.

Polyposis of Colon, 1917-date.

Bibliography of Dr. H. A. Royster, 1912-26.

Diagnosis of Intrathoracic Tumors, 1922-date.

Gifts have been received during the month from Dr. Lanford, Library of the Leland Stanford University Medical School, Library of the Medical School of University of California, and the Library of the Medical Department of the University of Minnesota.

55 books were added during the month. Of these 30 were received by binding, 6 by gift, 7 by exchange, 1 by purchase and 11 from the New Orleans Medical and Surgical Journal. A notation of titles of recent date is attached.

NEW BOOKS.

Surgery, Gynecology and Obstetrics Index v. 1-40, 1927.

Zinsser—Textbook of Bacteriology. 6th ed. 1927.

Crossen—Diseases of Women. 6th ed. 1925.

Rosenau—Preventive medicine and hygiene. 5th ed. 1927.

Sachs—Normal Child. 1926.

Dodds & Dickens—Chemical and Physiological Properties of the Internal Secretions. 1925.

Wood & Rowell—Health Supervision and the Medical Inspection of Schools. 1926.

Bethea—Materia Medica and Prescription Writing. 4th ed. 1926.

Williams—Obesity. 1926.

Gilchrist—Outlines of common skin diseases. 1927.

Bast—Life and Times of Adolf Kussmaul. 1926.

Pancoast & Pendergradd—Pneumoconiosis (silicosis). 1926.

A. M. A.—Hospital Service in the U. S. 1927.

Young and others—Studies on the Kahn precipitation test. 1925.

Rockefeller Foundation—Methods and Problems of education. 1927.

Sherman—Physicians' Manual of Vaccine Therapy. 1924.

Jour. Med. Research—Index v. 31-44. 1925.

Eberhardt—High Frequency Currents. 1915.

Berry—Orthopedic Surgery for Nurses. 1924.

McGuire—Profit and loss account of modern medicine. 1915.

H. THEODORE SIMON, M. D.,

Secretary.

Report of the Examination of the Books and Accounts of the Orleans Parish Medical Society.

New Orleans, La., April 20th, 1927.

Orleans Parish Medical Society,

New Orleans, La.

Gentlemen:

Upon instructions received from your treasurer, Dr. J. A. Lanford, I audited your books and accounts for the twelve months ending December 31st, 1926, and submit the following schedules covering same.

Financial Condition

The financial condition of your Association at December 31st, 1926, reflects a net worth of \$66,518.27, with no liabilities ascertainable.

Gold Bonds, Library Fund	\$ 6,500.00
Gold Bonds, Domicile Fund	30,000.00
Cash, General Fund	1,214.56
Cash, Library Fund	928.09

ASSETS

<i>Domicile Fund</i>		
Second Liberty Bonds 4¼ %		\$30,000.00
<i>General Fund</i>		
Cash in bank, Whitney Central Natl. Bank	\$1,214.56	
Petty Cash in office	10.12	
Medical Relief Fund	110.47	1,335.15

<i>Inventory of Fixtures—Gen. Acct.</i>	
Inventory at Dec. 31st, '25	\$572.13
Less one clock discarded	7.50

acquired in 1926	564.63	
	None	564.63

<i>Library Fund</i>		
Cash in bank, Marine Bank & Trust Co.		928.09

<i>Gold Bonds</i>		
Sinclair Cons. Oil Corp., No. M12759	1,000.00	7%
St. Charles Ave. Baptist Church, \$500.00 each, No. D-3 & 4	1,000.00	6%
Executive Committee of the Baptist Convention of Georgia, \$500.00 each, No. 467-468	1,000.00	6%
Missouri Pacific R. R., No. D-2043	500.00	6%
2,500 Guilders Holland-American Line, No. 006071-006075	1,000.00	6%
Gillican-Chipley Co. No. M1949	1,000.00	6%
Gillican-Chipley Co. No. M2424	1,000.00	6%
		6,500.00

<i>Inventory, Library Fund, Fixtures</i>	
Inventory on hand, Dec. 31st, '25	1,826.05
Less reduced value of typewriter	25.00
	1,801.05

<i>Acquired in 1926</i>		
Kardex File	43.20	
One Chair	12.00	55.20
		1,856.25

<i>Inventory of Books</i>	
Inventory on hand, Dec. 31st	24,120.91
Acquired in 1926	241.24
Donated in 1926—	
*238 Books @ 2.00	476.00
*124 Books @ 4.00	496.00
	1,213.24
	25,334.15

*Estimated by Miss Marshall

\$66,518.27

Cash, Petty in office	10.12
Medical Relief Fund	110.47
Inventory, General Fund	564.63
Inventory, Library Fund	27,190.40

\$66,518.27

The records were neatly and exceptionally well kept and all cash receipts were fully verified and all entries correctly posted. The duties having been increased in February, 1926, necessitated additional postings which a detailed check proved that all entries were properly posted.

A verification of the cash and securities were checked at the bank and found in accord with the records in the office.

Respectfully submitted,

L. L. JARREAU, Auditor.

RECEIPTS, "GENERAL FUND"

Louisiana State Medical Society	\$ 240.00
Louisiana State Medical Society, Tel & Tel.	39.79
New Orleans Medical & Surgical Journal, Tel. & Tel.	14.20
Copies of reminiscences sold	3.00
Membership dues	9,009.50
	<hr/>
	\$9,306.49

RECEIPTS, "LIBRARY FUND"

Interest received on investments

Missouri-Pacific Railroad	\$ 29.40
Sinclair Cons. Oil Corp.	68.60
Union Bag & Paper Co.	29.40
St. Charles Avenue Baptist Church	58.80
Holland-American Line	59.52
Executive Committee of the Baptist Convention of the State of Georgia	58.80
4 1/4 % Second Liberty Loan Bonds	1,275.00
Proceed of sale the Union Bag & Paper Co. bond	1,050.00
	<hr/>
	\$2,629.52

EXPENDITURES, "GENERAL FUND"

Salaries

Miss Marshall, Librarian	\$1,800.00
Miss Maier, Asst. Secy.	1,200.00
James Gardner, Porter	600.00
Alfred Hosmer, Porter	60.00
Charles Craig	60.00
Miss Gertrude Pic, Stenogr.	55.00
Miss Lothrop, Stenogr.	55.00
L. L. Jarreau, Auditor	35.00
	<hr/>
	\$3,822.00

Petty Cash	215.00
Stationery	237.89
Telephone & Telegraph	205.45
Insurance	17.50
Light, Electric, & Heat	74.92
Ice	47.15
Meeting Notices	7.25
Electrical work	6.00
New Orleans Medical & Surgical Journal	300.00
Floral Offerings, Deceased Members	27.00
Repairs to typewriter	22.85
Rental of Bank Box	5.00
Window Pane replaced	1.80
Carpenter Repairs	9.50
Light for office	7.80
Rental of Picture Machine	10.00
Prints	3.29
Charts (Emile Jastrom)	14.00
Stove Repairs (Baldwin)	21.75
Election Tellers	15.00

Banquet Expense	9.00
Dues Refunded	32.00
Plumbing repairs	20.00
Keys for safe	5.50
Miscellaneous	31.10
Oration (Dr. A. O. Whipple)	250.00
Whitney Bank (Bond bought) ...	986.33
La. State Medical Society (Dues)	1,806.00
Hospital Abuse "Expense" To Dr. Fossier	350.00
Stenographer	15.00
	<hr/>
	4,754.08

\$8,576.08

EXPENDITURES, "LIBRARY FUND"

Abstract & Research

Medical Library Assn.	\$10.00
W. F. Prior & Co.	15.00
Thomas Nelson & Sons	20.00
Oxford University Press	3.93
	<hr/>
	48.93

Magazine Subscriptions

Moore-Cottrell	444.85
H. W. Wilson & Co.	11.00
	<hr/>
	455.85

Books

Williams & Wilkins	9.00
J. A. Majors & Co.	62.20
Canadian Book Co.	3.74
Radiological Society .....	.60
Interpreter Publishing Co.	62.25
Williams Woods	6.00
Modern Hospital	11.00
Loranz & Co.	86.45
	<hr/>
	241.24

Binding

National Library Binding Co.	100.75
New Method Book Bindery	274.99
Freight & Drayage	20.17
	<hr/>
	395.91

Supplies

Democrat Printing Co.	13.06
Andree Printing Co.	2.00
Barber Entomological Lab.	4.85
	<hr/>
	19.91

Interest

Marine Bank & Trust Co.	33.53
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Fixtures

Kardex File	43.20
Ebert & Hall, One Chair	15.50
Petty Cash	40.00
Gillican-Chipley Co., Bonds Purchased	989.50
Marine Bank & Trust Co., Debit memo. for carrying less than \$100.00 daily average in April, 1927 .....	.50
	<hr/>
	\$2,284.07

INVENTORY OF FIXTURES

General Fund

1 Steel Filing Cabinet	\$35.00
6 Cardboard Cases	3.00
1 Safe	30.00
4 Wooden Tables	7.00
2 Flat Desks	25.00
1 Addressograph	40.00
1 Addressograph File	10.00
1 Underwood Typewriter	83.03
2 Swivel Chairs	10.00
12 Chairs	12.00
1 Directors Table	25.00
1 Gavel & Block	10.00
1 Stove	38.40
3 Rubber Rugs	3.00
1 Stove Plate .....	.50
1 Protectograph	20.00
1 Clock	7.50
1 Blackboard .....	.75
2 Fire Extinguishers	12.00
1 Brass Cuspidor	1.50
5 Waste Baskets	2.50
1 Ballot Box	1.50
1 Multigraph	50.00
1 Stand, "Type"	4.00
1 Step Ladder	1.50
1 Awning	12.65
1 Hat Rack	1.50
1 Globe Fixture & Light	13.95
1 Table Lamp	11.50
1 Translux Screen, 50 x 60	90.85
1 Door Check	1.00—\$564.63

INVENTORY OF FIXTURES & BOOKS

Library Fund

Books

Inventory at Dec. 31, 1925.....	\$24,120.91
Purchased in 1926.....	241.24
*Donated, 238 Books	
at \$2.00	476.00
*Donated, 124 Books	
at \$4.00	496.00
	1,213.24
Total inventory of books December 31st, 1927	\$25,334.15

Estimated by Miss Marshall
(Assistant Librarian)

Fixtures

3 Wooden Reading Tables....	\$9.00
9 Chairs	9.00
1 Oil Stove	4.00
24 Rows Wood Shelves	150.00
1 Ink Well .....	.50
15 Rows Steel filing shelves..	1,196.28
1 Catalogue Case & Stand....	125.00
1 Book Truck	50.00

1 Flat Top Desk	30.00
1 Typewriter	25.00
1 Steel Filing Cabinet	35.00
Cardboard Boxes	100.00
Filing Boxes	45.35
Lights	18.42
	<hr/>
	\$1,797.55

Acquired in 1926

Kardex Filing Cabinet	43.20		
One Swivel Chair	15.50	58.70	1,856.25

Total Inventory Books & Fix-
tures\$27,190.40

CASH

General Fund

Cash on hand Jan. 1st, 1926....	\$484.15	
Receipts	9,306.49	
	<hr/>	
	9,790.64	
Less disbursements	8,576.08	1,214.56

Library Fund

Cash on hand Jan. 1st, 1926....	582.64	
Receipts	2,629.52	
	<hr/>	
	3,212.16	
Less disbursements	2,284.07	
	<hr/>	
Cash on hand Dec. 31st, 1926.....	\$2,142.65	

DOCTORS ELECTED TO ACTIVE MEMBERSHIP IN 1926

1. Castellani, Aldo	10. Lisenby, J. O.
2. deReyna, George	11. Ernst, H. O.
3. Souchon, Edward	12. Jones, P. H., Jr.
4. Peterman, E. S.	13. Mendelson, R. W.
5. Calhoun, W. W.	14. Sicomo, J. F.
6. Williams, C. T.	15. Warren, D. D.
7. Wirth, W. R.	16. Rich, F. G.
8. Turner, R. H.	17. Magruder, L. W.
9. Powe, A. McK.	18. Montelepre, P. W.

INTERNE MEMBERSHIP

Elected in 1926

1. Feldner, G. D.	11. Donald, J. M.
2. Lombard, J. H.	12. Ganier, W. V.
3. Rosen, W. L.	13. Hunter, M. W.
4. Smith, John F.	14. Winter, H. H.
5. Zweigel, Isidore	15. Schaefer, Suzanne
6. Owen, B. G.	16. Culley, P. G.
7. Clayton, J. E.	17. Weinberger, H. L.
8. Shepard, S. C.	18. Willoughby, R. M.
9. Goldsmith, Ben	19. Peavy C. D.
10. Duffy, M. J.	

RESIGNATIONS.

- | | |
|--------------------|----------------------|
| 1. Clayton, J. E. | 9. Rodicks, J. C. |
| 2. Flowers, W. W. | 10. Shepard, S. C. |
| 3. Goldsmith, Ben | 11. Smith, John F. |
| 4. Hill, Chas. W. | 12. Stookey, L. J. |
| 5. Johnson, J. A. | 13. White, H. A. |
| 6. Kibbe, Chas. W. | 14. Winters, H. H. |
| 7. Lockard, J. N. | 15. Zweigel, Isidore |
| 8. Lucas, J. F. | |

MEMBERS REINSTATED.

- | | |
|-------------|------------------|
| Hume, J. R. | Hava, F. C. |
| | Battalora, G. C. |

MEMBERS DECEASED.

- | | |
|-------------------|----------------------|
| 1. Jones, H. P. | 4. Oechsner, John F. |
| 2. McGuire, M. H. | 5. Pothier, O. L. |
| 3. Nelken, A. | 6. Weaver, W. H. |

INSURANCE.

Liability

Employers Liability Insurance Co., Policy No. 359526, maturing February 15th, 1928, issued through Sam George Insurance Agency.

Surety Bond

United States Fidelity & Guarantee Co.,
Dr. John A. Lanford, Policy No. 8752-21, expiring Feb. 24/28 \$1,000.00
Miss L. Maier, Policy No. 20019-23, expiring Oct. 19/27 2,000.00

Fire

Hudson Insurance Co., thru Sam George Insurance Agency.
Policy No. 373463, Expiring Feb. 1st, 1930 \$11,000.00
Policy No. 373462, Expiring Jan. 12th, 1930 3,000.00
Policy No. 373465, Expiring Jan. 19th, 1930 3,000.00
Columbia National Fire Insurance Co., thru J. A. Corales Insurance Agency, Policy No. 711154, Expiring Sept. 12th, 1929 9,000.00

Total Fire Insurance on books and Fixtures \$26,000.00

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

REPORT OF HOUSE OF DELEGATES TO GENERAL ASSEMBLY.

Gentlemen:

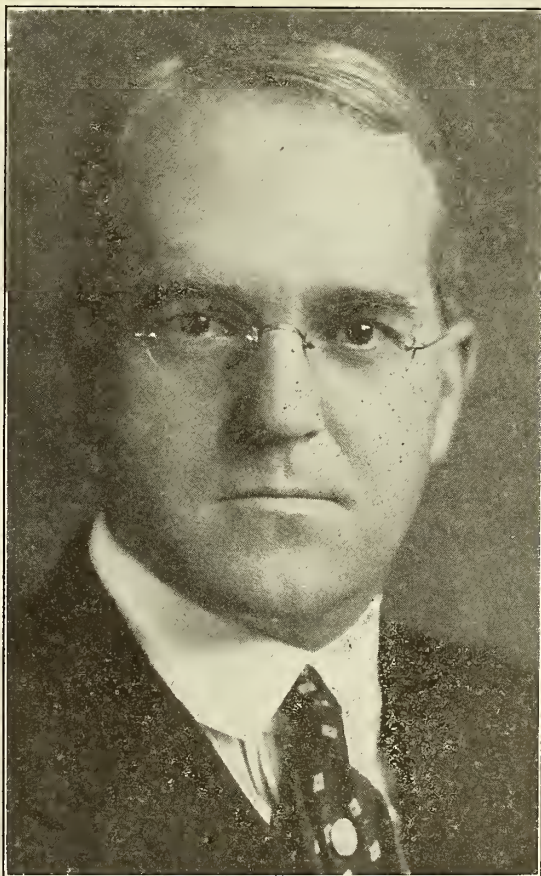
I wish to report the following activities of the House of Delegates, representing the business attended to during their several Sessions of the Annual Meeting.

Various reports from the Executive Officers and Standing Committees were presented and taken up under the proper order of business. As a result of these reports, it was voted to establish throughout the State special Legislative Committees in every Parish to function with our State Legislative Committee on future matters of interest.

Owing to the unusual water conditions which more or less appear at the same time in which our meeting has been held, it was recommended to the Executive Committee that in the future the meeting should be held at a time when this contention would not arise to prevent the proper functioning of our Society.

The experiment tried this year by the Committee on Scientific Essays, that of dividing the Scientific Meeting into two sections, Medicine and Allied Branches, and Surgery and Allied Branches, running simultaneously, has met with such favor and approval that the House of Delegates adopted the plan and asked that it be continued in the future. In order to intensify the Scientific Program, the Chairmen of various Sections will be appointed thirty days after the President takes office, and thus will be able to

The Committee on Public Policy and Legislation gave a very inclusive report, and as a result it was voted that a special fund of \$500.00 per year should be appropriated for the use of this Committee.



DR. HUBERT A. ROYSTER
RALEIGH, N. C.

ANNUAL ORATOR, LOUISIANA STATE MEDICAL SOCIETY

The report of the Journal showed that the fiscal affairs were in excellent shape, and that intensive plans were made for maintaining and increasing its scientific usefulness.

Upon recommendation of the Councilor from the Fourth District, Dr. S. C. Barrow, it was recommended that in the future the Annual Meetings be held more frequently in the country, leaving it to the discretion of the House of Delegates to determine said meeting place.

At the request of the Committee on Medical Defense, it was deemed advisable that more suitable propaganda should be disseminated looking toward taking the public into our confidence, which would be in a way reflected in the lessening of mal-practice suits.

Upon motion, the Journal Committee was requested to bring in a report covering their position in regard to refusing the advertisement of the New Fenwick Sanitarium. After considerable discussion on this subject, it was decided that the investigation of the New Fenwick Sanitarium should be made by our Committee on Hospitals, they in turn to report to the Journal Committee within sixty days from the date of meeting.

The name of Dr. Roy B. Harrison to succeed himself as a member of the State Board of Med-

ical Examiners, and also the name of Dr. Lucien A. Fortier, were passed and requested to be sent to the Governor for consideration.

It is interesting to note that provisions were made for the including of the specialties of Orthopedics and Gastro-Enterology in the future programs of the Society.

Resolutions were presented and passed expressing appreciation to Dr. Blackshear, our President, and Dr. Talbot, Secretary-Treasurer, for the valuable services rendered during the past years.

The Committee on Resolutions presented an appropriate report thanking the various agencies, individuals and institutions for their work and assistance in lending every possible means toward making our present meeting a success.

Owing to a request by a Conference of National and State Medical organizations at Memphis, being held on Thursday, April 28th, the House of Delegates delegated Dr. Blackshear to attend the meeting. Appropriate resolutions were offered and adopted calling our attention to the present urgent flood conditions, and offering the services of organized medicine to any contingencies that might arise.

Resolutions were offered as a matter of record calling our attention to the fact that one of our past Presidents, Dr. Rudolph Matas, had been so signally honored recently in London at the Lister Centenary by the Royal College of Surgeons.

Baton Rouge, Louisiana, was selected for the next Annual Meeting.

Dr. J. J. Ayo of Raceland was unanimously elected as Speaker of the House. Dr. Paul J. Gelpi was elected to fill the vacancy on the Journal Committee created by Dr. Herold having become President of our organization. Dr. Hermann B. Gessner was elected to the term of three years on the Journal Committee.

The following officers and Committees after being duly nominated were elected to office:

President—Dr. A. A. Herold, Shreveport.

President-Elect—Dr. L. J. Menville, New Orleans.

1st Vice-President—Dr. D. I. Hirsch, Monroe.

2nd Vice-President—Dr. C. C. DeGravelles, Morgan City.

3rd Vice-President—Dr. J. Birney Guthrie, New Orleans.

COUNCILORS:

Third District—Dr. F. T. Gouaux, Lockport.

Sixth District—Dr. C. A. Weiss, Baton Rouge.

Seventh District—Dr. D. C. Iles, Lake Charles.

Eighth District—Dr. G. M. G. Stafford, Alexandria.

Delegate to American Medical Association—Dr. S. M. Blackshear.

Alternate to American Medical Association—Dr. D. I. Hirsch.

COMMITTEES:

Committee on Scientific Work—Dr. P. T. Talbot, Chairman; Dr. A. E. Fossier, Dr. Elizabeth Bass, all of New Orleans.

Committee on Public Policy and Legislation—Dr. B. A. Ledbetter, Chairman, New Orleans; Dr. E. L. Leckert, Dr. Roy B. Harrison, President and Secretary; all of New Orleans.

Committee on Publication—Dr. P. T. Talbot, Chairman; Dr. Chas. Chassaignac, Dr. Jules Dupuy, all of New Orleans.

Committee on Medical Education—Dr. S. C. Barrow, Chairman, one year, Shreveport; Dr. John A. Lanford, two years, New Orleans; Dr. Maurice J. Gelpi, three years, New Orleans.

Committee on Medical Defense—Dr. P. T. Talbot, one year, New Orleans; Dr. E. L. Sanderson, two years, Shreveport; Dr. R. O. Simmons, three years, Alexandria.

Committee on Hospitals—Dr. Chas. Chassaignac, Chairman, New Orleans; Dr. J. L. Scales, Shreveport; Dr. O. P. Daly, Lafayette; Dr. C. P. Gray, Monroe; Dr. A. J. Comeaux, Youngsville.

Committee on Health and Public Instruction—Dr. W. H. Seemann, Chairman, New Orleans; Dr. F. R. Gomila, New Orleans; Dr. G. M. Stafford, Alexandria; Dr. J. Q. Graves, Monroe; Dr. J. K. Griffith, Slidell.

Respectfully submitted,

P. T. TALBOT,
Secretary-Treasurer.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

To the President and House of Delegates, Louisiana State Medical Society, 1927.

Gentlemen:

As will be observed, your Committee this year has been principally concerned with the medical

curriculum, and begs therefore to make the following report:

Starting with the fundamental idea that medical education should have as its primary object the proper and efficient treatment of sick human beings, certain modifications in the curriculum strongly suggest themselves.

1. The present curriculum offers inadequate contact between the student and the patient. This applies particularly to the first three years of medical teaching, including the premedical year. During these three years, amounting to three-fifths of the entire educational period, the contact is practically nil. This idea has recently been stressed by Hugh Cabot before the Association of American Medical Colleges.

2. There are at present too many lectures in the curriculum. In this connection, your Committee feels as has been said, that "no one can teach the art or the science of the practice of medicine by the lecture system." Much of the time now spent by the student in the lecture room, might be spent to considerably more advantage either in the out-door clinic or in the wards.

3. While your Committee does not belittle the importance of laboratory teaching, for the making of good, practical doctors, a disproportionate period of the student's time is spent in the laboratory. As stated by Ray Lyman Wilbur of Stanford University, "It is interesting from a historical standpoint to note that when the laboratories came along, they were captured in an educational sense by clinical medicine, but they now have captured their captor."

4. The fact is often deplored by medical educators, that so many students want to be surgeons. Is not this an evidence perhaps that too much stress has been laid upon and too much time given up to major surgery?

Your Committee feels therefore that the product of the medical school would be a better equipped practitioner, if this excess of laboratory and lecture time were given over to the study, examination and treatment of patients, and if this excess of major surgical teaching were devoted to the same end.

Your Committee deplores the apparent increasing control of medical education by endowments—those permanently established, enormous sums which must be utilized for specific purposes exclusively. By thus fixing and determining the educational conduct of universities or medical schools, not only in a general but even in a detailed and specific manner, there is a tendency to overstandardization and stifling of individuality

and personality in teaching. Your Committee is in accord therefore with the note of warning recently sounded by Professor Zinsser of Harvard Medical School. This warning is timely and worthy of serious consideration, particularly on the part of those seeking assistance from philanthropic sources.

Finally, it is suggested that the teaching of the "Principles of Medical Ethics" be included in the curriculum as recommended by the Council on Medical Education of the American Medical Association.

The Committee realizes that at best but little can be accomplished by these yearly reports, except perhaps to put the Society on record as being interested. However, something practical may be accomplished eventually by persistently sending these reports to the educational bodies actually controlling the medical curricula.

Be it therefore resolved, That a copy of this and subsequent reports be sent to the following organizations:

The Association of American Medical Colleges; the Deans of the Component Members; the Council on Education of the American Medical Association; the Rockefeller Foundation; and the Carnegie Foundation.

Respectfully submitted,

MAURICE J. GELPI, Chairman,
Committee on Medical Education.

JOHN A. LANFORD, Member.
S. C. BARROW, Member.

DR. RUDOLPH MATAS HONORED AT LISTER CENTENNIAL.

Dr. Rudolph Matas, retiring Professor of Surgery in Tulane University School of Medicine, was made an Honorary Fellow of the Royal College of Surgeons in England on the occasion of the celebration of the Lister Centennial on April 5, 1927. This is a very high honor as honorary fellowships are conferred by the Royal College of Surgeons only on rare occasions, and then only on surgeons of great distinction.

The results of the Louisiana State Medical Society Golf Tournament were as follows:

Dr. F. Temple Brown as medalist won the I. L. Lyons cup.

Dr. Val H. Fuchs runner up won the Louisiana State Medical Society cup.

Dr. N. K. Edrington, Destrahan, with low net score of 67 won the Hausmann Inc. cup.

Dr. Allan Eustis, Sugical Supply Trophy.

Dr. J. B. Duval, Houma, the McDermott Surgical Instrument Company.

Dr. Paul A. LeBourgeois and family of Jeanerette are now comfortably located in their home on East Main street. Dr. LeBourgeois has also rented a suite of offices on the second floor of the Cage building where he will practice his profession as specialist in the treatment of the eye, nose and throat. We welcome him and his little family to this community. In this instance, Jeanerette's loss is New Iberia's gain.

MERCY HOSPITAL STAFF MEETING.

At the regularly monthly meeting of the Staff of the Leonce-Mercy Hospital held May 20, 1927, the following cases were presented by Dr. Maurice Campagna:

1. A case of acute encephalitis occurring in a nineteen-year-old white boy. Up to the sudden acute onset the patient was apparently well. No prodromate could be elicited from the history and the disease progressively advanced to a fatal termination within a period of four days. The anti-mortem signs were classical for brain tumor but the post-mortem findings were of extreme interest due to the great amount of infiltration and congestion of the blood vessels of the cerebrum bringing about an extensive softening in such a surprisingly short time.

2. A rare case of malignancy of the pericardium occurring in a white male age 46 years. Epidermoid in type and metastasizing from an epidermoid tumor of the left side of the scalp. The lungs were involved to a small extent around the hilus. No involvement of the endocardium or myocardium. The pericardial cavity was completely obliterated and the pericardium presented a marked thickening.

Drs. Jamison and Campagna presented a yearly report on the medical clinic of the institution emphasizing the large number of tubercular patients and the environmental draw backs precluding a successful combating of this malady. A total of 1171 patients were treated in the medical department with twenty-four admissions through the clinic. Of these four died, sixteen were discharged as well or improved and four were reported as unimproved. Three autopsies were obtained.

After the June meeting the staff will not meet again until September, 1927.

Two Senior Medical students were selected from a number of applications to serve as clinical clerks for the coming year.

SABINE PARISH MEDICAL SOCIETY.

There was a meeting of Sabine Parish Medical Society at the Court House in Many, Tuesday, May 10th, at 2 o'clock P. M.

Vernon Parish Medical Society was invited to meet with Sabine Parish Medical Society at this time.

There was no scientific program arranged ahead of time, but each physician present was given a chance to present a short paper, or case report for discussion.

DR. F. W. PARHAM, FAMOUS SURGEON, CALLED BY DEATH.

Dr. Frederick William Parham, noted New Orleans surgeon, who had been honored by many universities and associations of doctors for his accomplishments in surgery which brought him international fame, died May 6, 1927, at his residence, 1429 Seventh street, following an illness of several months.

Funeral services were held from the residence Saturday afternoon, May 7, at 3 o'clock, with Bishop Davis Sessums officiating.

Dr. Parham was born in New Orleans, March 20, 1856, the son of John Greenway Parham and Mary E. Blunt. On December 15, 1892, he married Miss Mary K. Duncan of New Orleans, who survives him. To this union six children were born, four of whom survive. They are Fred D. Parham, well-known New Orleans architect; Dr. Duncan Parham, Titusville, Pa., and Mrs. Mildred Parham and Miss Mary Parham, New Orleans.

He is also survived by a brother, B. B. Parham of Natchez, Miss., and a sister, Mrs. Philip Werlein, formerly Miss Betty Parham.

GAINED FAME.

Dr. Parham had an international reputation as a surgeon, due to many new and daring operations he performed while assistant resident surgeon at Charity Hospital and professor of surgery at the New Orleans Polyclinic, now the graduate school of Tulane University. He also perfected several devices that have come into common use in the practice of surgery.

Some of the outstanding surgical achievements of Dr. Parham were in the field of intestinal surgery. He performed many brilliant operations in

this field and was the author of many papers devoted to this particular branch of surgery.

The first thoracic operation performed in this country of which there is a record was performed by Dr. Parham here in 1898. It was for the removal of a tumor on the bony wall of the chest.

SURGICAL INVENTOR.

Dr. Parham, working with Dr. E. Denegre Martin, perfected what is known as the Parham-Martin band for use in oblique bone fractures. According to Dr. Lund, a well-known Boston surgeon, it formed one of the most important contributions to surgical instrumentation.

Dr. Parham also wrote much of surgical shock. His work to lessen the danger from this source formed one of his outstanding efforts and served to attract attention to him from the men of his profession throughout the world.

One of the last papers published by Dr. Parham was read before the Louisiana State Medical Association in 1926. The subject discussed was head injuries that made for intra-cranial tension.

MANY HONORS.

Dr. Parham was honored with office and membership in many medical and surgical organizations and in 1925 was given the degree of doctor of laws by Tulane University. He was one of six medical men graduated from Tulane so honored by his alma mater.

In the same year 150 fellow surgeons and physician celebrated Dr. Parham's sixty-ninth birthday anniversary in a reception at Charity Hospital, with which he had been connected for forty years, and presented the institution with an oil portrait of Dr. Parham.

At that time Dr. Parham was given credit for having been most active in developing an efficient co-operation between the administrative board of Charity Hospital and the staff of visiting surgeons. Also, he was said to have done much toward the development of antiseptic and aseptic surgery to its present importance and efficiency. For this and the part he had played in a material lowering of the New Orleans death rate it was said that Dr. Parham had won international recognition.

HELD MANY OFFICES.

Dr. Parham was a fellow of the International Society of Surgeons. He was vice-president of the American Surgical Association in 1917 and was a member of the board of regents of the American College of Surgeons from 1920 to 1926.

In 1908 Dr. Parham was elected president of the Southern Surgical and Gynecological Associa-

tion and was president of the Louisiana State Medical Association in 1902. In 1895 he was president of the Orleans Parish Medical Society.

Dr. Parham also was a member of the American Medical Association and of the Phi Delta Theta.

In 1877 he was admitted by competitive examination to the Charity Hospital, where he served as interne with distinction for two years, notably during the malignant epidemic of yellow fever in 1878. From that time his interest in the Charity Hospital never faltered. This active interest throughout a period of fifty years was invaluable to the institution.

Dr. Farham was assistant house surgeon of the Charity Hospital from 1885 to 1887. One of his brilliant accomplishments was the inauguration and execution of a system of antiseptic and aseptic methods which practically eliminated the fearful mortality caused by puerperal fever in the maternity wards.

DEATH CLAIMS DR. McCUTCHON, NOTED PHYSICIAN.

Dr. Percival Butler McCutcheon, for more than a generation one of the leading physicians of New Orleans, died in Touro Infirmary, after a prolonged illness.

Funeral services were held at 9:30 a. m. Friday, May 13th, from his residence, 4020 Prytania street. The body was sent to Pass Christian, Miss., for burial.

Dr. McCutcheon was born in Pass Christian, February 7, 1852. He graduated from Virginia Military Institute in 1873 and was assistant professor of Latin and tactics there until 1876. Coming to New Orleans, he became a resident student at Charity Hospital in the first class admitted by competitive examination in 1877. Graduating in medicine and pharmacy at Tulane University in 1879, Dr. McCutcheon was appointed assistant demonstrator in anatomy and served as such until 1881.

From 1879 to 1883, Dr. McCutcheon was sanitary inspector for the national board of health and held the same position with the Louisiana state board of health in 1884 and 1885. He was secretary of the Orleans Parish Medical Society for several years and served as president of that body in 1884. He was secretary of the Louisiana State Medical Society from 1883 to 1899. He was made an honorary member of the Orleans Parish Medical Society on April 12, 1926.

Dr. McCutcheon was second vice-president of the Louisiana State Board of Health from 1899 to

1907, and served as physician of the Protestant-Episcopal Children's Home for forty years, and the Waldo Burton Memorial Home for thirty years.

Besides his wife, formerly Miss Annie Salkeld Davis, Dr. McCutcheon is survived by one daughter, Miss Rebecca Butler McCutcheon, two sons, Percival Butler, Jr., and E. Davis McCutcheon, and one brother, F. B. McCutcheon of Pass Christian.

DIED: Dr. Joseph Edgar Johnson, Gandy, Louisiana; Medical Department of Tulane University of Louisiana, New Orleans, 1912; member of the State Medical Association of Texas; aged 49; died November 11, 1926, at Houston, Texas, of acute appendicitis.

Dr. M. T. Van Studdiford is leaving for three months in Europe to attend skin clinics in the large medical centers.

SUMMER CLINICS IN CHICAGO.

Announcements and schedules will soon be ready for the 1927 Summer Clinics of the Chicago Medical Society, supported by many of the largest hospitals in the city, among them being the Post Graduate Hospital, Chicago Memorial Hospital, University of Illinois College of Medicine, Cook County Hospital, Michael Reese Hospital, Mercy Hospital, Presbyterian Hospital, Jackson Park Hospital, St. Luke's Hospital, Ravenswood Hospital, Mount Sinai Hospital, Francis Willard Hospital, West Suburban Hospital, Evangelical Hospital, North Chicago Hospital, Chicago Lying-in Hospital, St. Joseph Hospital, Alexian Brothers Hospital, Laboratory of Surgical Technique, Washington Park Hospital, Jackson Park Hospital, Chicago Municipal Tuberculosis Sanitarium, John B. Murphy Hospital. Several of our large laboratories have also agreed to co-operate with us in this great work.

In 1926 they limited registrations to physicians living in Illinois, but the increased facilities make it possible to accommodate many more than last year. Registrations therefore will be open to physicians from other states and to as many as may be accommodated, in the order of their registration. Registration fee will be \$10 for each two weeks course, payable at time of registration, and a physician may register for only one course of two weeks.

Admission will be by card only, issued by the Chicago Medical Society and no registration card will be issued until registration fee is paid.

The first two weeks course will begin on Monday, June 13th, 1927, at 9 a. m., ending Friday, June 24th.

The second two weeks course will begin on Monday, June 27th, at 9 a. m., ending Friday, July 8th.

This is an excellent opportunity for the medical men of the country to obtain real post-graduate work in some of the best hospitals in the world, and from some of the best clinicians found anywhere.

Schedules will be sent to the 10,000 physicians in Illinois, and announcements will be sent to the American Medical Association, and the several state medical journals.

They will probably be unable to accommodate all those desiring this wonderful clinical course, so it behooves those interested to register early if they desire to take advantage of this year's clinics. Last year the registrations closed one week after the first announcement.

SENIOR MEDICAL TECHNICIAN.

(Bacteriology)

MEDICAL TECHNICIAN

(Bacteriology)

SENIOR MEDICAL TECHNICIAN.

(Roentgenology)

MEDICAL TECHNICIAN.

(Roentgenology)

Applications will be rated as received until June 30, 1927.

The United States Civil Service Commission announces that hospitals of the United States Veterans' Bureau and the United States Public Health Service throughout the country are *urgently* in need of technicians as described above and that applications for the positions will be received until the close of business on June 30, 1927. Applications will be rated currently as they are received and certification of eligibles will be made as the needs of the service require.

JUNIOR MEDICAL OFFICER.

(Interne)

Applications for junior medical officer (interne) must be on file with the Civil Service Commission at Washington, D. C., not later than June 30.

The examination is to fill vacancies in Veterans' Bureau Hospitals throughout the United States, and in positions requiring similar qualifications.

The entrance salary in the field service of the Veterans' Bureau is \$1,860 to \$2,400 a year, without allowances, or \$1,260 to \$1,860 a year with quarters, subsistence, and laundry, the entrance salary within the range stated depending upon the qualifications of the appointee as shown in the examination and the duty to which assigned.

The duties, under immediate supervision, are to admit patients, take histories, make physical and mental examinations and record findings; to make ward rounds of inspection, note charts, record observations; to prescribe for minor ailments or for acute emergency cases and to dispense medicine in emergency; to perform minor surgical operations and to assist at major operations and in redressing; to administer anaesthetics; to make routine laboratory tests and analyses; to assist at outpatient clinics in dressing and in administering vaccines; to keep records, make up case histories, answer correspondence relating to patients, and compile statistics requiring medical training.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

ASSISTANT MEDICAL OFFICER.

ASSOCIATE MEDICAL OFFICER.

MEDICAL OFFICER.

SENIOR MEDICAL OFFICER.

Applications will be rated as received by the United States Civil Service Commission at Washington, D. C., until June 30.

Appointments from these examinations will be made to the Veterans' Bureau, the Indian Service, the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Departmental Service at Washington, and other branches.

The demand for specialized medical officers in the Federal service is constant and the supply of eligibles is rarely equal to the demand. There is opportunity for appointment of specialists in practically all branches of the profession.

Applicants will not be required to report for written scholastic tests, but will be rated on their education and training, and their practical experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

LOUISIANA DOCTORS WHO ATTENDED A. M. A.

Alexander, Lucian W., New Orleans; Bamber, James M., New Orleans; Bass, Elizabeth, New Orleans; Blackshear, S. M., New Orleans; Brent, Waller H., Hammond; Buffington, W. R., New Orleans; Butler, H. W., New Orleans; Cazenavette, L. L., New Orleans; Cohn, Isidore, New Orleans; Corbin, Robert Adwood, New Orleans; Dupuy, Homer, New Orleans; Elliott, John B., New Orleans; Engelbach, Theodore, Grand Lake; Eshleman, Charles L., New Orleans; Eustis, Allan, New Orleans; Gately, Tracy T., New Orleans; Heath, Arthur G., Shreveport; Henderson, W. F., New Orleans; Johns, F. M., New Orleans; Kearney, Harold Leslie, New Orleans; Knolle, Wilkes Adams, New Orleans; Lemann, I. I., New Orleans; Levy, Louis, New Orleans; Lyons, Randolph, New Orleans; Mangham, A. D., Elizabeth; von Meysenbug, L., New Orleans; Moss, Olin W., Lake Charles; Murphy, H. A. Garyville; Musser, J. H., New Orleans; Roussel, J. N., New Orleans; Ross, John K., Algiers; Salatich, Peter B., New Orleans; Samuel, E. C., New Orleans; Tumbleson, Talbot Austin, New Orleans; Unsworth, C. V., New Orleans; Unsworth, H. R., New Orleans; Walker, Joseph D., Carson.

MISSISSIPPI DOCTORS WHO ATTENDED A. M. A.

Barrett, I. W., Lyon; Blount, E. N., Bassfield; Blount, W. N., Laurel; Buchanan, C. C., Hattiesburg; Catching, J. M., Hazlehurst; Elam, W. T., St. Joseph; Lucas, J. F., Greenville; McRae, B. J., Crandall; McWilliams, Charles A., Gulfport; Mitchell, C. D., Jackson; Rafferty, Donald G., Pass Christian; Raiwold, M. W., Pass Christian; Street, Augustus, Vicksburg; Strong, Robert A., Pass Christian; Towns, Sherrod R., Union Church; Waldrep, Newman C., Tishomingo.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

A MESSAGE FROM THE PRESIDENT.

"Through the New Orleans Medical and Surgical Journal, I want to express my appreciation for the unanimous vote by acclamation that elected me and showed that all factions have been eliminated. It is yet too early to give a definite outline of policy but the general purpose of this administration will be to carry out and continue our co-operation with the State Board of Health and the medical institutions of this state which have made such a splendid showing in the past. I feel that I need the co-operation of every medical man in Mississippi if I am to accomplish anything. I assure you that I shall try to show my appreciation by doing my best."

(Signed) JOHN DARRINGTON.

As we go to press the minutes of the meeting of the Mississippi State Medical Association at Jackson have not been received but we are able to announce the election of the following officers:

President—John Darrington, Yazoo City.

Vice-Presidents—Edwin Benoist, Natchez; E. S. Bramlett, Oxford; E. L. Posey, Jackson.

Councilor Sixth District—W. G. Gill, Newton.

Councilor Seventh District—E. M. Gavin, Richton.

The meeting place for 1928 will be in Meridian.

The editor of this column felt that his duty was at home on account of the flood situation. The secretary writes that there were more than 250 registered at Jackson and that the program was unusually good.

At the request of Gov. Dennis Murphree and Dr. F. J. Underwood, Dr. R. H. Foster of Laurel, Mississippi, made an inspection tour of the flooded district the early part of last month.

Dr. Baylis of Laurel has volunteered his services for work among the refugees in the Mississippi Delta.

The refugee camps at Vicksburg and Natchez have been doing good work and the splendid health conditions in both camps are due to the work of the local physicians. It is well worthy of remark that in both camps thousands of people coming in without warning have been cared for promptly and so efficiently that there has been no epidemic.

Since early in 1900 Dr. Jones has been active in the life of Mississippi State institutions, having

Dr. May F. Jones has resigned her post at the Mississippi State Sanatorium because of ill health

and returned to her home in West Point, Virginia, been identified with the Mississippi State Woman's College at Columbus, the State Teachers' College at Hattiesburg and the Mississippi State Sanatorium, having been the first Assistant Superintendent of the latter institution. For four years Dr. Jones was in charge of the field work carried on by the sanatorium.

Dr. Jones was the first woman to be admitted to the Mississippi State Medical Association as being the first woman to take the state board medical examinations. She is also the author of "Keep Well Stories for Little Folks" which is used to teach health lessons to all third grade boys and girls in both Mississippi and Georgia.

Dr. Jesse L. Roark of Water Valley, Mississippi, has come to the sanatorium to take over the duties formerly in charge of Dr. May Jones. Dr. Roark received his medical training at Jefferson Medical College at Philadelphia and also interned in the hospital of this college. Dr. Roark has been engaged in private practice at Water Valley for the last year. He and his charming wife make an attractive addition to the Sanatorium group.

Dr. Henry Boswell and Dr. B. B. O'Mara were called to Natchez during the latter part of May to assist in work in the refugee camp there. Dr. O'Mara returned to duties at Sanatorium after a couple of days. Dr. Boswell was gone for several days, working in the inundated districts.

DIED: Dr. Fortunato Bottista Sirianni, Greenville, Mississippi; University of Naples, 1898; served during the World War, aged 52, died March 1.

DIED: Dr. W. H. A. Bemis, Pope, Mississippi; Memphis Hospital Medical College, 1884; aged 75; died March 4 of paralysis.

DIED: Dr. William H. Broomfield, Mound Bayou, Mississippi; Meharry Medical College, Nashville, Tennessee, 1902; aged 43, died in April of injuries received when the automobile in which he was riding was struck by a train.

DIED: Dr. Herbert M. Haley, Utica, Mississippi (licensed Mississippi, 1882) aged 74, died suddenly April 12.

DIED: Dr. Harry Greenwell Fridge, Hattiesburg, Mississippi, Medical Department of the Tulane University of Louisiana, New Orleans, 1904; served in France during the World War, aged 47; was killed March 31, in an automobile accident.

BOOK REVIEWS

Text-Book of Urology: By Oswald S. Lowsley, A. B., M. D., F. A. C. S., and Thomas J. Kirwin, Ph. C., B. S., M. A., M. D., F. A. C. S. With 233 engravings and 13 plates. Philadelphia, Lea & Febiger. 1926.

In the past few years several new texts on urology have appeared which have added materially to our knowledge concerning this most important specialty of surgery. In no single-volume work on urology has the reviewer noted more originality than is to be found between the two covers of the book written by Lowsley and Kirwin.

Dr. Lowsley received international recognition years ago in his original investigations dealing with the embryology and histology of the prostate gland. In recent years he has been one of the most enthusiastic advocates of regional anesthesia, particularly as it applies to kidney and prostatic surgery.

Dr. Kirwin is well known to a host of our readers, having been a member of the graduating class of Tulane '17. We feel a just pride in the position he has attained in organized medicine in New York City. Holding the position of chief of clinic in the Brady Urological Foundation, New York Hospital, under Dr. Lowsley, who is director of the foundation, he has had unlimited clinical facilities for studying the surgical ailments of the urogenital apparatus.

The chapter dealing with a historical review of urological surgery represents much reading and investigation. It is the most complete piece of work on the subject that the reviewer has ever read. A chapter on history-taking and physical examination is most thorough and illuminating. Cystoscopy and roentgenological diagnosis are described in detail and an interesting feature is a description of the new Lowsley cystoscopic table as well as the new Lowsley cystoscopic rongeur.

Chapter V deals with the penis and prepuce and includes anomalies, hypospadias, injuries, diseases, ulcers, cancer, operative and non-surgical care, of these structures. In other chapters that follow, the authors take up the scrotum, testicles, epididymes, vasa deferentia and seminal vesicles. The male urethra, Cowper's glands, the female urethra—all are accorded separate chapters in which the disease and surgery of these organs are dealt with in modern fashion.

Chapter XI which deals with the prostate is probably the most interesting chapter in the book. The investigations of Lowsley on the embryology and histology of the prostate, already referred to above, are given here and are most interesting reading. It was mainly through the studies of

Lowsley that we teach today that the prostate is divided into five lobes, namely, the middle, the two lateral, the posterior, and the anterior or ventral. Both the suprapubic as well as the perineal approach in prostatectomy are fully described and illustrated. The authors prefer the perineal route and state their reasons for having adopted same. Parasacral block with 30 c.c. of a 1 per cent procain solution is their choice mode of anesthesia in prostatectomy. Their technique in perineal enucleation of the prostate is a modification of Young's. Their ingenious method of keeping patients dry following bladder operations by means of a water suction-pump will unquestionably commend itself to many.

Chapters on the bladder, the ureters and the kidneys give all data referable to the modern management of the disease to be found in these organs. The surgical care of bladder tumors, ureteral stones, renal stones, infections and new growths of the kidneys, are all covered in a way that makes their reading interesting as well as instructive.

The illustrations in the books are excellent throughout, the print is sufficiently large to read with ease and the various subheads in bold print make it easy for the reader to find readily the point in which he is chiefly interested. For those about to take up urology as a specialty the book is especially recommended. The general physician as well as the general surgeon will find in it a valued compendium. Within its covers will be found everything a medical student should be informed on as regards the field of urology.

H. W. E. WALTHER, M. D.

Symptom Diagnosis—Regional and General: Wilfred M. Barton, A. M., M. D., F. A. C. P., and Wallace Yater, A. B., M. D. New York, D. Appleton & Co. 1927.

This book is an excellent "trouble locator." In these days of rapid living where the demand for a quick and accurate diagnosis is expected, the busy practitioner will find here a dependable help.

The arrangement of the matter is convenient and the type clear with the principal headings in bold character. The first part is devoted to regional symptoms. This forms the greater part of the work. The last third of the book deals with general symptoms.

The book is all the authors claim for it—a handy book to have on the desk which you can open at the chapter describing all the possible ills which a patient can have in the ailing area.

A quick glance at the bold type helps the memory to the right page.

The reviewer is not an advocate for quick and easy ways in medicines because such tend to limit the energy especially of young men and prevent them from using their own powers of observation and deduction to the best advantage. For these he considers this book a very valuable method of checking the correctness of their deductions *after* all the study of the case is completed. Older men will find in it a good help to memory.

NARCISSE THIBERGE, M. D.

The Life and Times of Adolf Kussmaul: By Theodore H. Bast, Ph. D. New York, Paul B. Hoeber. 1926.

A significant feature of the recent renaissance in the study of medical history is the interest displayed in those figures of eponymous fame. Sir William Osler was accustomed to use eponyms in his unique methods of instructions. Dr. Joseph Pratt has left us a charming account of his investigating (at his teacher's request) the concocter of *Pilulae Ferri Carbonatis*. Sir D'Arcy Power is currently favoring us with an enlightening series of eponyms in the *British Journal of Surgery*, which will richly reward the reader. Now Professor Bast familiarizes the medical profession with a pathfinding physician of the turbulent nineteenth century—whose name every student associates with that type of respiration so characteristic of diabetic coma—Kussmaul air hunger.

Unfortunately Kussmaul's "Reminiscences of an Old Doctor" is not available in an English translation. Perhaps it may be fortunate, for its charm and wisdom could only be mutilated in an alien tongue. Its merit is testified by the numerous editions—fourteen—through which it has run in Germany. One might consider Dr. Bast's volume an abstract of the "Errinerungen." The first part of the book is given over to Kussmaul's adolescence, and while entertaining, in a large measure, is entirely too saccharine a presentation. Kussmaul's later experiences call up a comparison with the late dean of British clinical investigation, Sir James Mackenzie. Both underwent the rigors of country practice, rising through this medium to the loftiest possible heights.

What do we owe to Kussmaul's ceaseless industry, his uncanny acumen? He was the strongest link in the chain of workers who laid the foundation stones for Helmholtz' genius to give us the ophthalmoscope. The obstetrician remembers him for his classic studies on transmigration of the ovum. Pediatricist and neurologist acclaim

his masterpiece on speech disturbances. While he was not the first to use the stomach tube (as is generally held) credit is due him for having given the impetus for its general application. We might mention other contributions, such as the description of periarteritis nodosa, the use of drainage in empyema—all examples of his extraordinary versatility.

Undoubtedly the reader will profit from a sitting with Dr. Bast's volume. In the absence of a translation of the master's autobiography, an outstanding treasure of medical biography, it suffices to give us a good account of his life and times.

M. MALLOWITZ.

Human Pathology: By Howard T. Karsner, with an introduction by Simon Flexner. Philadelphia, J. B. Lippincott Co. 1926.

This text of pathology presents the modern views of the subject. Unfortunately, the consideration of certain important diseases, notably the exanthemata have been omitted and still others are but incompletely described. There is considerable but incomplete literature cited, especially of the American workers.

WILLIAM H. HARRIS, M. D.

PUBLICATIONS RECEIVED.

C. V. Mosby Company, St. Louis: "Examination of Children by Clinical and Laboratory Methods," by Abraham Levinson, B. S., M. D. "Management of the Sick Infant," by Langley Porter, B. S., M. D., M. R. C. S., L. R. C. P. "Principles of Chemistry," by Joseph H. Roe, Ph. D. "Tiger Trails in Southern Asia," by Richard L. Sutton, M. D., Sc.D., LL.D., F. R. S.

Harper & Brothers Publishers New York and London: "Should We Be Vaccinated?" by Bernhard J. Stern.

Williams & Wilkins Company Baltimore: "Medicine Monographs," Vol. XI, Birth Injuries of the Central Nervous System, by Frank R. Ford, Bronson Crothers and Marian C. Putnam.

Year Book Publishers, Chicago: "Practical Medicine Series, General Therapeutics," edited by Bernhard Fantus, M. S., M. D. "Practical Medicine Series, Obstetrics," edited by Joseph B. DeLee, A. M., M. D.

William Wood and Company, New York: "The International Medical Annual, 1927."

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